



WORLD EXCLUSIVE...

WHAT NEXT FOR DANIEL RICCIARDO?

McLaren ace
opens up about
his fight to stay
in Formula 1



HOW ALONSO EXPLODED THE DRIVER MARKET

GOING NUTS

How pitstops
have got more
difficult than ever

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Bull **must** build the
ultimate hypercar

CARLOS SAINZ

British GP winner
on how Ferrari can
still nail every race



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A black and white photograph of a woman standing next to a vintage car. She is wearing a light-colored, lace-patterned dress with a collar and a brooch, long gloves, and a matching beret with a flower. She holds a small, light-colored handbag. The car is a classic convertible with a white steering wheel and a folded-down top. The background is a dense, leafy hedge.

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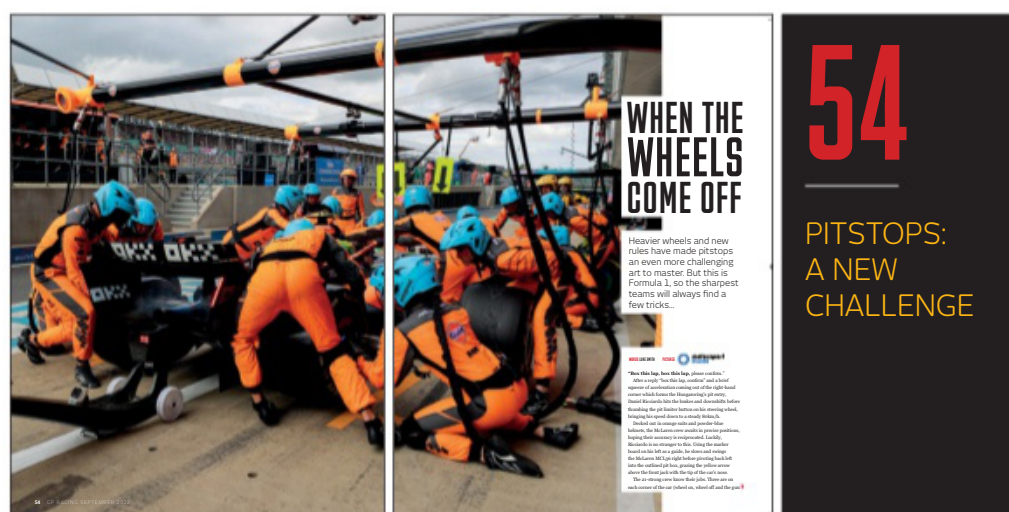
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Stuart
Codling



Seb's exit puts Dan in a tricky position

“**Lawrence Stroll won’t be** too sad to see the back of Seb Vettel,” murmured a paddock insider to me ahead of the summer break. “After all, he’s just sold a chunk of his road car company to the Saudis, he’s got Aramco sponsoring his Formula 1 team – the last thing he needs is his star driver telling everyone we shouldn’t even be going there...”

The question of whether Vettel pre-emptively jumped into retirement or was pushed is one which may only be answered in time. But, let’s face it, competitively speaking it was time for him to go; Seb’s only win this season has come not on track but in the TV studio, where he comprehensively outshone a group of lightweight political dullards (including an aspiring Prime Minister) on the BBC’s *Question Time*. The downside – unless you’re of the persuasion that sport and politics don’t mix – is that his imminent departure will reduce the number of F1 drivers actively engaged in social causes by 50%.

Vettel’s retirement announcement also uncorked an effervescent ‘silly season’ of unquestionably exciting vintage. As this edition of *GP Racing* closed for press the bubbles had yet to subside.

Perception is everything in F1. Tiny margins of performance can add up to huge differences once they accumulate from race to race and the points differences between team-mates grow. When we put in our request to interview Daniel Ricciardo

for this issue (see p36), we knew it may well be the last time; but we were also mindful of how, just one year ago, his well-executed victory in the Italian Grand Prix arrested some of the questions being asked about his form.

A significant influencing factor on that performance was the summer break, a space which enabled Daniel to rest and figuratively hit the reset button. For him, though, the summer of 2022 will have afforded fewer opportunities to cleanse body and mind, since Ricciardo will have been busy negotiating his severance package from McLaren while looking at other options for 2023.

One thing is for sure at the time of writing: the legal eagles who charge by the hour will do very well out of this kerfuffle. They may even accrue enough for a downpayment on one of Red Bull’s staggeringly expensive RB17s (p32). If not, perhaps the miraculous effect of compound interest and pound-cost averaging on their investment portfolios will take them to the necessary £5m mark by the time Adrian Newey’s new project is ready in 2025.

As a cheaper option, perhaps an example of Newey’s last dalliance with the road car industry, the Aston Martin Valkyrie. Lawrence Stroll may be laughing all the way to the bank...

• **GP Racing has a podcast: Search for ‘Flat Chat with Coddors’ in your podcasting platform of choice**

Contributors



OLEG KARPOV

Oleg had an exclusive interview with McLaren’s Daniel Ricciardo in Hungary (p36), just as the driver market was exploding...



LUKE SMITH

Luke analyses the challenges that F1 teams have faced at pitstops this year, dealing with the new 18-inch wheels (p48)



MAURICE HAMILTON

The first part of a four-part history of Tyrrell, one Formula 1’s most-loved teams, is on Maurice’s radar this month (p60)



MATT KEW

Matt, Autosport’s F1 editor, takes over the reins of the Flat Chat column this month (p106) and goes all *Top Gun: Maverick* on us

Team principals

Editor
Stuart Codling
President, Motorsport Network
James Allen
Vice President of editorial
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Drivers

Managing editor
Stewart Williams
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Pit crew

Principal photographer
Steven Tee
Columnists
Ben Edwards
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Mark Gallagher
Maurice Hamilton
Matt Kew

Photo agency
Motorsport Images
Publishing director
Sunita Davies
Production controller
Ben Webster

Advertising

Tandem Media
Catherine Rowe
T: 01233 228750
M: 07775 705856
catherine.rowe@tandemmedia.co.uk

Subscriptions

Email: help@asm.secureorder.co.uk
Customer hotline/back issues
0344 848 8826
Subscriptions marketing executive
Matt Sleight



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Snookered in scarlet

The best place to photograph a Ferrari pitstop is from the McLaren garage, where I'm allowed to stand, and at this point of the race I was thinking, "Well, I've done two Ferrari stops already – I'll drop the shutter speed for the next one."

A slower shutter speed is riskier because it's blurrier, but that can convey a great sense of speed. And this turned out to be the crucial stop where Ferrari fitted Charles with the hard tyres. I don't pretend to be an expert, but pretty much everyone else was juggling softs and mediums.

I hate to say it, but it's been embarrassing watching Ferrari at times this season...



Photographer

Steven Tee

Where Hungaroring, Hungary

When 3:55pm, Sunday

31 July 2022

Details Canon EOS-1DX MkII

70-200mm lens, 1/4th @ F22









Remember the first time

Pole celebrations are mostly a non-event these days, or samey at the very least, since the drivers know it doesn't score points and they've got a long way to go to beat Lewis Hamilton's total. There is the possibility, as Carlos Sainz found at Silverstone, that instead of some micro-celeb giving you the Pirelli trophy you get Nigel Mansell, and he practically wrenches your arm off at the socket while shaking your hand...

Hungary was a bit different. I positioned myself overhead, on the balcony next to the podium, to get a different view – and then George Russell got his first F1 pole. So it was a unique angle on a historic moment.



Photographer
Zak Mauger

Where Hungaroring, Hungary

When 5:03pm, Saturday
30 July 2022

Details Canon EOS-1DX MkII
70-200mm lens, 1/1000th @ F2.8

Latifi explodes to the front

You always know to take your wet-weather gear to the Hungaroring. If it's not hot and dry you either get torrential rain or grey skies with intermittent but inconsequential drizzle. We got all three alternatives over the course of this weekend.

Having shot here before in the wet I knew exactly what I wanted to get on Saturday, when it rained for most of the day before petering out in the afternoon. Between Turns 2 and 3 there's a bridge which creates a slightly drier patch underneath, and you get this explosion of spray as the car transitions from this to the wet surface again.

It's an appropriate car, too, since Nicholas Latifi topped the timesheets in this session.



Photographer
Zak Mauger

Where Hungaroring, Hungary

When 1:17pm, Saturday
30 July 2022

Details Canon EOS-1DX MkII
600mm lens, 1/2000th @ F4.5







A touch of gold at Paul Ricard

Any photograph at Paul Ricard usually shows the distinctive red, white and blue bands of the high-abrasion run-off areas, a legacy of its recent past as a dedicated test track. Since it's looking unlikely that Formula 1 will be returning here, I thought I'd try to sneak another couple of colours into the palette.

Turn 6 – the right-hander at the bottom of the circuit which feeds on to the left-hander which opens on to the main straight – has an enormous Pirelli logo nearby, so I went for a slow-speed pan which picks up the rich yellowy gold colours of the Pirelli branding. Having George Russell's Mercedes in shot adds some silver into the mix too.



Photographer
Alastair Staley

Where Paul Ricard, France

When 5:57pm, Friday
22 July 2022

Details Canon EOS-1DX MkII
400mm lens, 1/6th @ F9





Why it always pays to be patient

I very nearly didn't get this shot because I'd decided to pack up and move to the next corner. Then I thought, "Just one more lap and then I'll go..."

By contrast, Charles Leclerc was a man in a hurry to get a move on, and it bit him as he came around this fast but tricky double-right-hander. It's an interesting place to stand because the outside-front tyre is the one taking the punishment but often it's the car's rear axle which lets go first.

When he biffed the barrier I found myself hoping he'd be able to get the car going again. But he couldn't, and you could really see in his body language the frustration at his own mistake.



Photographer
Carl Bingham

Where Paul Ricard, France

When 3:32pm, Sunday
24 July 2022

Details Canon EOS-1DX MkII
70-200mm lens, 1/1600th @ F10

HOW ALONSO BROKE THE DRIVER MARKET

01 **That portion of the year when** frenzied speculation abounds about which driver might move where is known as ‘the silly season’ for eminently justifiable reasons. This summer’s was sillier than others as one world champion’s retirement triggered an unexpected migration by another – and that wasn’t even the end of it.

Sebastian Vettel’s retirement announcement set the rabbits running in the days before the Hungarian Grand Prix. The four-time world champion elected not to extend his Aston Martin contract, citing a desire to spend more time with his family.

“My goals have shifted from winning races and fighting for championships to seeing my children grow,” he said. “Passing on my values: helping them up when they fall, listening to them when they need me, not having to say goodbye and most importantly being able to learn from them and let them inspire me. Children are our future. Further I feel there is so much to explore and learn about life, and about myself. Speaking of the future, I feel we live in very decisive times and how we all shape these next years will determines our lives.”

Vettel’s decision wasn’t entirely surprising, though the timing of its communication caught many in F1 unawares. The combination of F1’s unwillingness to speed up its switch to synthetic fuels and Aston Martin’s weak form is likely to have guided Seb towards his decision. It would be challenging to describe his spell with the Silverstone-based team as successful, even though he scored a well-executed podium in Baku last year. Heading into this year’s summer break, Vettel had scored just 16 points and his team was only ahead of Williams in the constructors’ standings.

Such results clearly don’t match the ambitions of a four-time world champion – and yet Vettel has something for which to be grateful to Aston Martin. The move there at least allowed him to leave F1 on his own terms, having been in effect kicked out of Ferrari at the end of 2020.

It was the announcement that Fernando Alonso would replace Vettel at Aston which sent shockwaves through the paddock. It seemed almost certain he would be continuing with Alpine, and even his current team bosses were caught out by the Aston news.

“We like him [Alonso],” Alpine team principal Otmar Szafnauer said on Sunday evening after the Hungarian Grand Prix. “We like him a lot because he’s performing. And he says he likes us.”

Szafnauer fell short – but not all that short – of confirming Alonso’s new contract with Alpine would be

PICTURES: MARK SUTTON; CARL BINGHAM; ALEXANDER TRIENITZ



The decision of Vettel (top right) to retire at the end of 2022 prompted Alonso (above) to make an unexpected grab for his place at Aston Martin. Piastri (above, right) has also snubbed Alpine

signed before the next race at Spa, implying the deal was pretty much done. And that very same evening, according to Szafnauer, the vacation-bound Alonso assured his boss that he hadn’t “signed anything” with other teams. At 9.02am the following day Aston Martin published its press release declaring that Alonso would be joining it for 2023.

So Alpine’s bosses liked Alonso but Fernando clearly felt they didn’t like him enough. In a hastily arranged press conference, Szafnauer revealed Alonso had been offered a ‘one plus one’ deal – in effect one year plus the option of another, subject to conditions. And that looks to have been the sticking point for the two-time world champion. The deal offered by Aston Martin’s owner Lawrence Stroll reportedly guaranteed Alonso



“MY GOALS HAVE SHIFTED FROM WINNING RACES AND FIGHTING FOR CHAMPIONSHIPS TO SEEING MY CHILDREN GROW. I FEEL WE LIVE IN VERY DECISIVE TIMES AND HOW WE ALL SHAPE THESE NEXT YEARS WILL DETERMINE OUR LIVES”

SEBASTIAN VETTEL

at least two more F1 seasons, and there's also every reason to believe it came with a more attractive stipend. For Alonso, who turned 41 in July, it was almost certainly the last chance for a payday that big.

Szafnauer acknowledged it was Alonso's age which militated against Alpine offering him a longer-term deal.

“There does come a time where something happens physiologically to a driver, and you don't have the same abilities you did when you were younger,” he said. “I think it happened to Michael [Schumacher]. I think it's fair to say Michael Schumacher at 42 was not the same driver he was at 32 or 35. And it happens to other sportsmen too.

“For cricketers, it's not such a physically strenuous sport.

It's all about eye/hand coordination, moving the bat to the right millimetres such that you protect the stumps. But after 32, 33 or 34, the best batsman in the world can't do it anymore. And that's because something happens to them. And it happens to race car drivers, too.

“So we were in favour of: yes, if you're performing to the high level, for sure we'll keep you, but let's do it one year at a time. And I think he wanted a longer duration.”

In any case, Alpine bosses had reason to believe their negotiating position was stronger, thanks to an obvious fallback plan. Oscar Piastri, a product of Alpine's own young-driver programme, had won three prestigious junior titles in three years before settling for a reserve driver role for 2022. ▶

It seemed a foolproof backstop that the seat would go to Piastri were Alpine's negotiations with Alonso to fail. It now seems Alpine has let both drivers slip at the same time – since it wasn't just Alonso quietly negotiating with other teams.

Piastri's desire to find a place on the starting grid for 2023 was well known to Alpine, but it seems the scope of this to become a threat had been underestimated. Having reached out to Oscar's managers after Aston Martin's announcement, all Alpine heard in return was a confirmation that its backup option no longer prioritised a future with Alpine.

And so the Tuesday after the Hungarian GP was even crazier than the Monday. Already cognizant that Piastri had agreed to race for another team in 2023, Alpine nonetheless issued a press release announcing him as Alonso's replacement. The status of this announcement as a primarily legal manoeuvre was made clear by the conspicuous absence of any quotes from Piastri himself. A few hours later it was followed by a social-media salvo from Piastri: "I understand that, without my agreement, Alpine F1 have put out a press release late this afternoon that I am driving for them next year. This is wrong and I have not signed a contract with Alpine for 2023. I will not be driving for Alpine next year."

Piastri's defiant public stance left little room to doubt he had already agreed – and probably signed – a 2023 deal with McLaren. According to insiders the management at Woking, having not seen the progress desired from Daniel Ricciardo, decided to drop him in favour of a better long-term bet, making the most of Alpine's sluggishness in finalising a plan for its young driver. Piastri, for his part, didn't accept Alpine's original plan to place him at Williams for his F1 debut and keep him loaned out until Alonso was ready to call time on his F1 career.

It's understood Piastri and his management team, which includes Mark Webber, began to sound out



Ricciardo (above)
was already on shaky ground at McLaren. It seems likely he will be replaced by fellow countryman, Piastri

McLaren as early as spring. Webber's prior connection to McLaren chief Andreas Seidl, who worked with him at Porsche, helped expedite the process. It has also become clear that speculation about Alpine simply missing a July 31 deadline to take up Piastri's option was incorrect.

As this issue goes to press the situation remains fluid. Both drivers' contracts are being considered by the FIA's contract recognition board, an entity formed in 1992 in the wake of Michael Schumacher's post-debut move from Jordan to Benetton. It's clear Alpine believes it has a valid 2023 deal in place with Piastri and is prepared to take the matter to court – if only to extract a financial settlement.

NEW ENGINE RULES OPEN GATE FOR PORSCHE

02 Better late than never. The FIA has finally approved its 2026 F1 power unit regulations, paving the way for new manufacturers – such as Porsche and Audi – to enter the series.

The details of the new rules have been debated over ►

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the course of the past few months and the final package was expected to be signed off in July. The subsequent delays forced Porsche to delay the official announcement of its arrangement with Red Bull, but even so their plans for a joint F1 project have been F1's worst-kept secret since early spring.

Porsche, along with Audi, received Volkswagen Group board approval to begin an F1 programme at the start of the year. Around the same time the conditions of Porsche and Red Bull's future partnership were agreed – and since then the two parties have been essentially waiting for the FIA's say-so, in the form of approved new regulations.

“VW's board decision is that if the technical regulations meet the criteria, then they have the mandate to go into Formula 1,” Red Bull's racing advisor Helmut Marko told *GP Racing's* sister publication *Motorsport-Total.com* in late July. “That primarily relates to cost cap, sustainability, zero-emission fuel, equal opportunity as a newcomer, so more dyno capacity, and so on. But in purely formal terms, these new regulations don't exist yet.”

That nominal hurdle is now gone. The FIA has rubber-stamped a ruleset under which F1 will, as anticipated, retain the current 1.6-litre V6 internal combustion engine specification yet drop the complex and expensive MGU-H (Motor Generator Unit – Heat). That latter aspect was one of the preconditions for the Volkswagen Group.

In addition to that, the switch to fully synthetic fuel has also been approved, allowing F1 and its stakeholders to reaffirm a message of environmental sustainability. The electrical deployment of the hybrid powertrain will rise to 5%.

Even before the FIA finalised the regulations, it emerged that Porsche won't limit itself to just being Red Bull's engine supplier. Its plan was revealed by a document disclosed by the Conseil de la Concurrence in Morocco: competition and merger laws mean Porsche and Red Bull must file notice of any proposed joint venture in many territories, including over 20 countries outside the EU. The document reveals Porsche notified the Conseil in July it will be setting out on a 10-year partnership with Red Bull, beginning in 2026, which will include the purchase of a 50% stake in its grand prix operation.

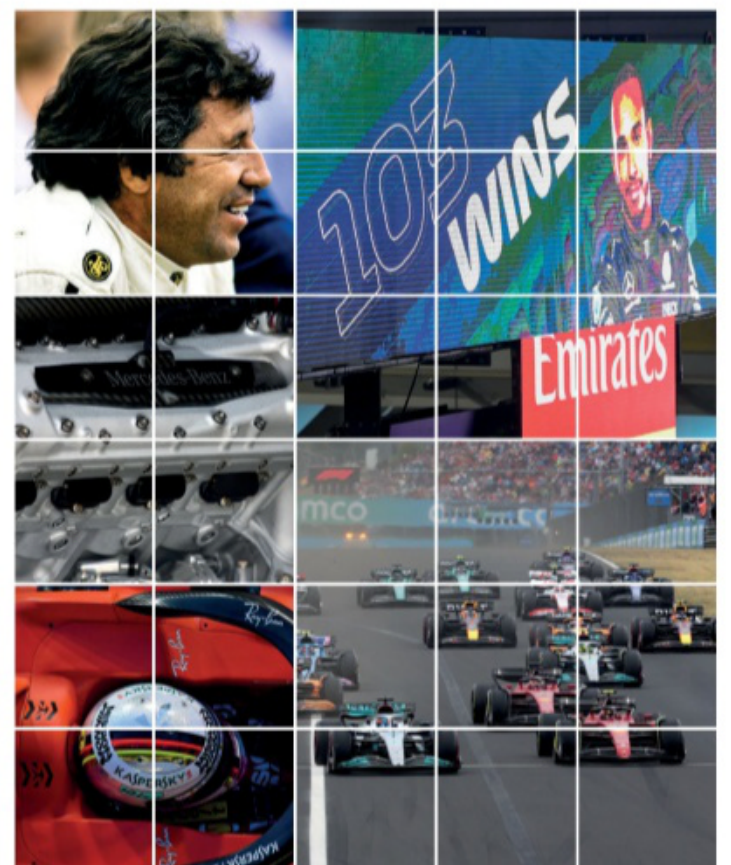
The Red Bull/Porsche tie-up has been one of the paddock's worst-kept secrets this season. It should now be confirmed following the announcement of the 2026 engine regulations

EVEN BEFORE THE FIA FINALISED THE REGULATIONS, IT EMERGED THAT PORSCHE WON'T LIMIT ITSELF TO JUST BEING RED BULL'S ENGINE SUPPLIER

F1 MASTERMIND

Your chosen specialised subject: the world's greatest motorsport

- Q1** When was the last time Sebastian Vettel started a GP from the front row?
- Q2** Which was the last season a Mercedes-engined car failed to win a GP?
- Q3** Apart from Jackie Stewart and Jody Scheckter, which three other drivers won races for Tyrrell?
- Q4** Counting the shared 1957 British GP win by Moss and Brooks as two, how many F1 GPs have been won by British-born drivers: 276, 308 or 332?
- Q5** Alain Prost's first F1 win came on home soil at Dijon, but in which year: 1981, 1982 or 1983?
- Q6** Who am I? I started 156 GPs from 1994 to 2003 for Sauber, Williams, Jordan, Prost, Arrows and Sauber again, winning three times and claiming two poles.
- Q7** True or false: Mario Andretti won as many F1 races in 1978 as he did in the rest of his career?
- Q8** George Russell's Hungary pole was his third front row start. When and where were the previous two?
- Q9** From 1960 to 1970 only five countries from outside Europe hosted world championship F1 GPs. Which are they?
- Q10** Which Formula 1 GP has only ever been won by Sebastian Vettel?



1 Brazil 2019 **2**, 2006 **3** François Cevert, Patrick Depailler, Michele Alboreto **4** 308 **5** 1981 **6** Heinz-Harald Frentzen **7** True, six in 1978, 12 in total **8** Sakir 2020, Belgium 2021 **9** USA, Mexico, Canada, South Africa, Argentina **10** India

PICTURES: MARK SUTTON; STEVE ETHERINGTON; JERRY ANDRE; DREW GIBSON; MOTORSPORT IMAGES ARCHIVE

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PICTURES 

SADNESS AS SPA FACES GLOOMY FUTURE

The prospect of the Belgian Grand Prix

no longer providing the annual kickstart for the second part of the Formula 1 season is a downer for me. The essence of the current layout appeared on the calendar in 1983 at a time when I was becoming immersed in motorsport and it bowled me over with its speeds, dips, climbs and forested borders. Ten years later, winning a one-make series race there gave me a huge lift.

But not everyone feels the same about Spa. My former co-commentator and five-time GP winner John Watson raced there for McLaren in 1983 when it hosted a grand prix for the first time since 1970. He had high hopes of enjoying a track which had been revamped from the former road course of 8.7 miles created between the wars.

"I had expected because of the nature of the layout of the racetrack that I was going to embrace it and love it but strangely I didn't," Watson said. "My reaction may have been based on the disappointment of poor qualifying in the previous race at Monaco and the same

fundamental problem which reared its head in Spa; tyres from Michelin which didn't work for us. As a result I didn't embrace the racetrack, and because I didn't embrace it I didn't have this kind of love affair with the place."

It hasn't always worked for various drivers. Despite his fantastic statistics, Fernando Alonso has never won a grand prix at Spa, and never started from pole position or even from the front row. And twice in the last decade he has ended up with a badly damaged car without even getting through the first corner. In 2012 Romain Grosjean made contact with Lewis Hamilton as they accelerated from the line and ended up clattering over the top of Alonso's Ferrari, denying him the chance to extend his points lead over the Red Bull pairing of Mark Webber and Sebastian Vettel, the latter of whom went on to win the title.

In 2018 Alonso was in the opposite position as his McLaren was launched into the air with a shove from Nico Hülkenberg under braking for La Source, sweeping over the head of Charles Leclerc – who was relieved the halo had been introduced that year.

Twelve months later, Spa became a hugely significant venue for Leclerc. On the Saturday, his friend and karting rival Anthoine Hubert was killed in a tragic F2 accident at Raidillon. The following day Charles took his maiden F1 win with a composed performance under pressure from Lewis Hamilton, and it was an incredibly mixed emotional moment as he stepped up to the podium.

Mind you, climbing steps is something everyone has to do at Spa. A colleague of mine who has worked for many years assisting the set up of TV production at F1 events mentioned that the Belgian race will be the only one he is avoiding this year.

That's because of the challenge of shifting equipment from the TV compound, located high on the hill outside the start/finish line to areas in the hospitality paddock which sits inside the straight from La Source to Eau Rouge. It's a good 20-minute walk and everybody who works or spectates there will have similar stories of laborious perambulations.

Yet the atmosphere of Spa is truly special, as friend and racing fan Chris Ringrose mentioned when visiting as a spectator in the 1980s.

"Part of the charm is that combination of what looks like a rally stage in the woods," Ringrose said. "The gradients, cambers and the historical ribbon of asphalt weaving through. I remember standing on the inside of Eau Rouge for a morning warm-up session, looking back up the old pit straight. Elio de Angelis came through with a big lift off the throttle, followed by Lotus team-mate Ayrton Senna who had no intention of lifting...The sparks were incredible and everyone

just gasped with the raw speed. He was just so close to us that it really left an impression."

No doubt Max Verstappen would like to leave a similar impression on his own fans at Spa. Born 50 miles away from the venue – his mother, Sophie Kumpen, is Belgian – he is yet to win a proper 'race' – ignoring last year's debacle – at what is in effect another home circuit in addition to Zandvoort.

Lando Norris, who was in contention to claim pole position last year in the wet before crashing in Q3, is another with Belgian heritage; it would be bitterly disappointing to that side of his family if the event disappears or becomes an irregular fixture. While Lando's other home event at Silverstone does feel like an ideal place for first-time ticket buyers to soak up many aspects of what has become a festival, the layout of Spa makes creating that same hub a little more challenging. But even John Watson would be sad to see it go.

"I would be upset if it gets dropped," added Watson. "I think we need a balance of traditional F1 racetracks. But maybe Liberty has looked at it and decided the current audience is not made up of traditionalists. If Formula 1 sees its target audience as the responders to Netflix and TikTok then maybe that's the direction of travel they want to go down because it will make it more profitable."

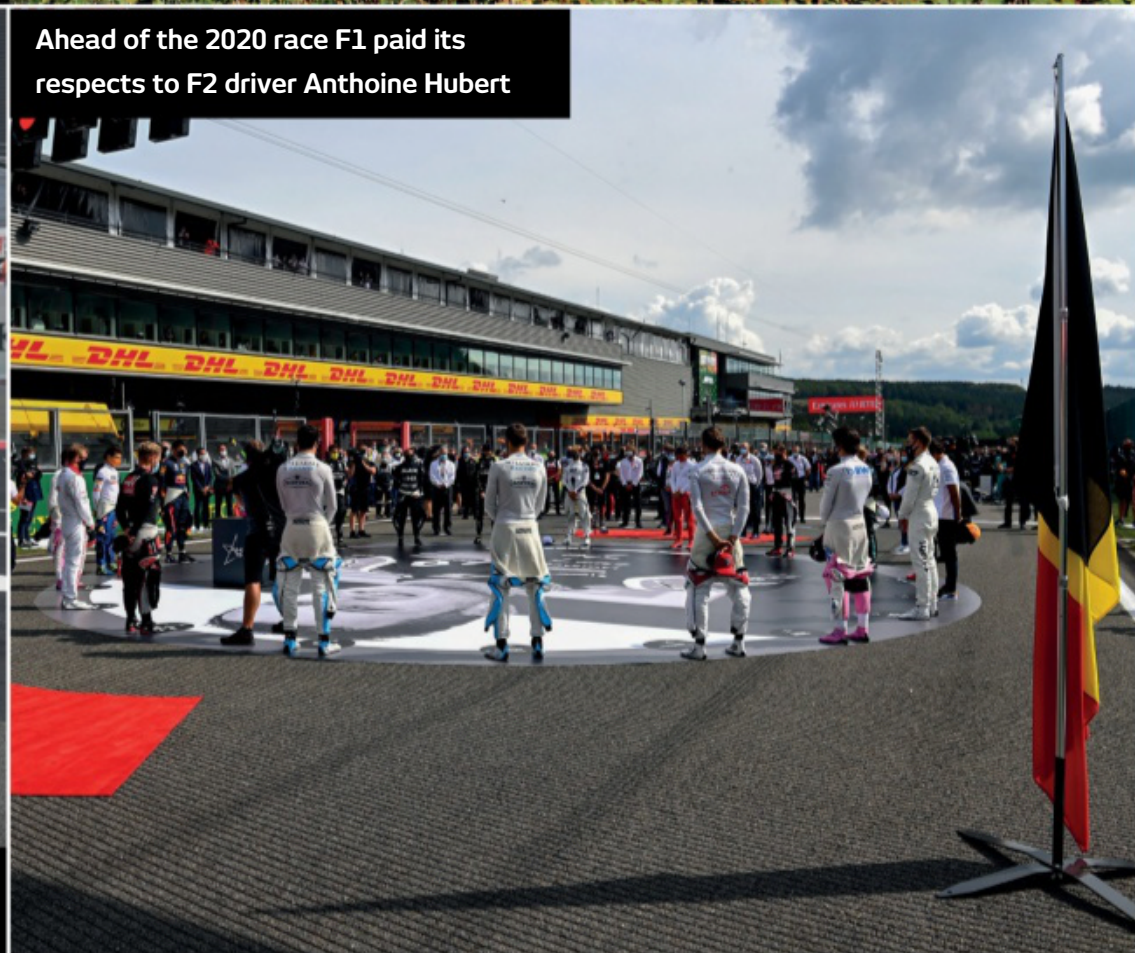
So if the annual trip to Spa-Francorchamps becomes biennial or even less regular, there will be mixed emotions all around. But I for one will definitely shed a tear.



Spa is many people's favourite circuit but views like this, with the start line and pits in the distance, may be rationed in future



Fernando Alonso didn't make it past La Source in 2018. In his long career the Spaniard has never won a Belgian GP



Ahead of the 2020 race F1 paid its respects to F2 driver Anthoine Hubert



Ayrton Senna muscles his Lotus 98T through Eau Rouge, when the corner was anything but 'flat' in F1



A 'winner' in 2021, Verstappen was born 50 miles from the circuit



John Watson drove in the first GP at the revised Spa in 1983, but never really fell in love with the circuit



UNDER THE HOOD

PAT SYMONDS

PICTURES **motorsport** IMAGES

and develops the promise many felt he had earlier in his career.

Much of the early performance of many teams was determined by the re-discovered phenomenon of ‘porpoising’, about which countless words have been written. There is no doubt a trade-off existed between ultimate performance and ride quality, as sportscar teams have known for many years. Some dealt with the problem better than others and, during the summer, suspicions were raised that this may be more to do with how the skids on the underside of the cars were installed rather than the simple aerodynamic oscillation itself.

It’s almost certainly true that it’s only when the car hits the ground multiple times that the driver feels it. The oscillation prior

to grounding, while probably not pleasant, is unlikely to be detrimental to either the driver or the lap time. This was probably best illustrated by Ferrari where the bouncing could be seen on television but the performance was good and Mercedes where, particularly in Baku, the grounding was such that the drivers were complaining of severe discomfort. New clarifications on skid mounting, and the introduction of an extremely controversial ‘Aerodynamic Oscillation Metric’ at the Belgian Grand Prix, may well alter the competitive position of teams in the second half of the season.

So Ferrari, having mastered this, was the first to throw the gauntlet down. It was swiftly picked up by Red Bull and these two cars were the early class of the field. Reliability, something we have come to take for granted in recent years, was significant as both teams suffered more failures than might be expected. Coupled with some dubious strategy calls from Ferrari, this soon handed the advantage to Red Bull. Neither team was exemplary, though, on reliability. Some of this may be due to the shock loading imposed on the power unit through continual grounding. It’s known that in the first two races Alpine had an oil pump failure and a charge air pipe failure, both of which were attributed to high shock loads – maybe the problem was more common than the teams care to admit.

An admirable aspect of the performance of the two top teams is that they can maintain their relative performance in both qualifying and race trim and, perhaps

WHO’S ADAPTED BEST TO THE NEW RULES?

When a set of regulations reaches maturity, a mid-term report during an F1 season will often state the obvious. Some teams will continue to do well and others will fail. There may be some anomalies which have determined results, such as a specific reliability problem for a team or a driver change that isn’t working out as expected but, in general, the status quo doesn’t change much from year to year.

2022 is somewhat different. An entirely new set of regulations was introduced that didn’t just change detail but actually altered the essential way a car is conceived and, as often happens in cases like this, some got it right and others struggled. However, just like in 2009 when fundamental changes were made, the interest lies not just in who got it right out of the box but more in who has been capable of improving more than others, and where lie the strengths and weaknesses of the various teams.

The extended pre-season testing that was allowed this year to give the teams more time to



This season’s new rules were first unveiled last year, and Red Bull and Ferrari have been the cream of the crop so far

understand and hone their cars gave, as usual, few clues as to the pecking order. A strange anomaly whereby Haas was allowed to run later than other teams because, through no fault of its own, its freight was delayed, only served to add to the confusion. Haas recorded some impressive times but the feeling in the paddock was that this was a function of running in cool conditions rather than superior performance. There was some truth in that but nowhere near as much as rivals hoped for. After a couple of disappointing years, Haas is a force to be reckoned with and, at mid-term, that early promise has been reinforced rather than diminished as Mick Schumacher gains confidence



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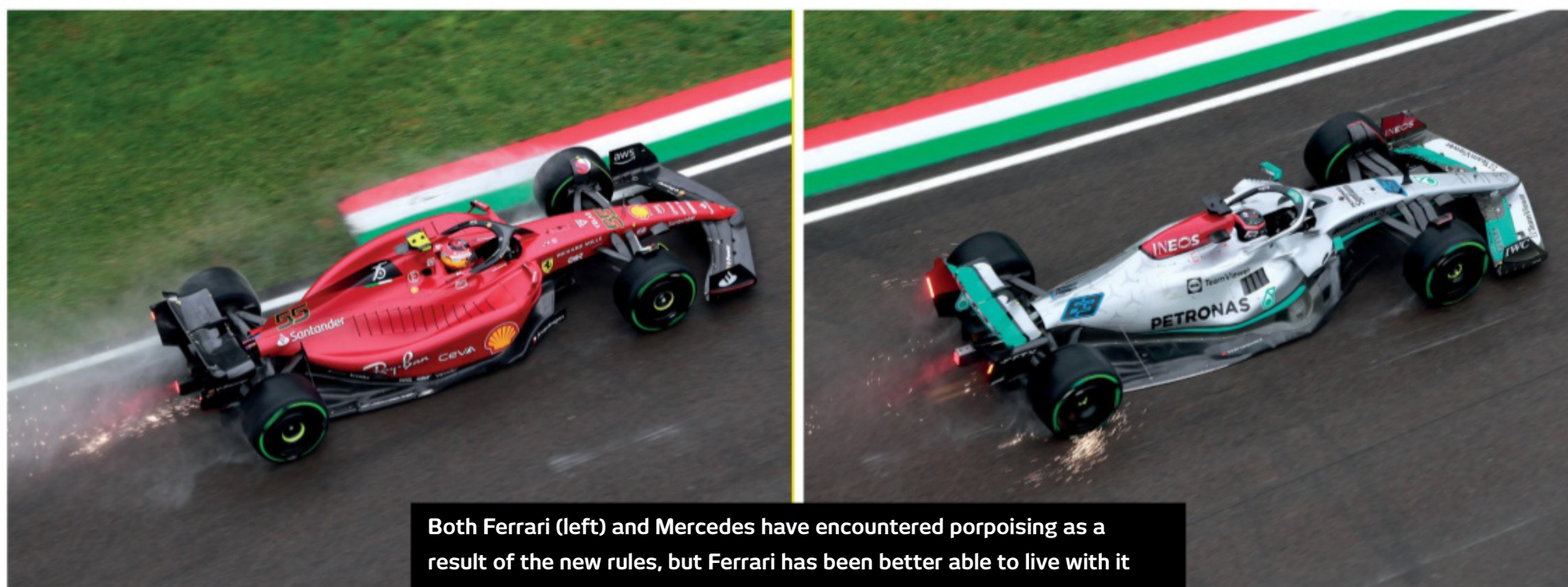
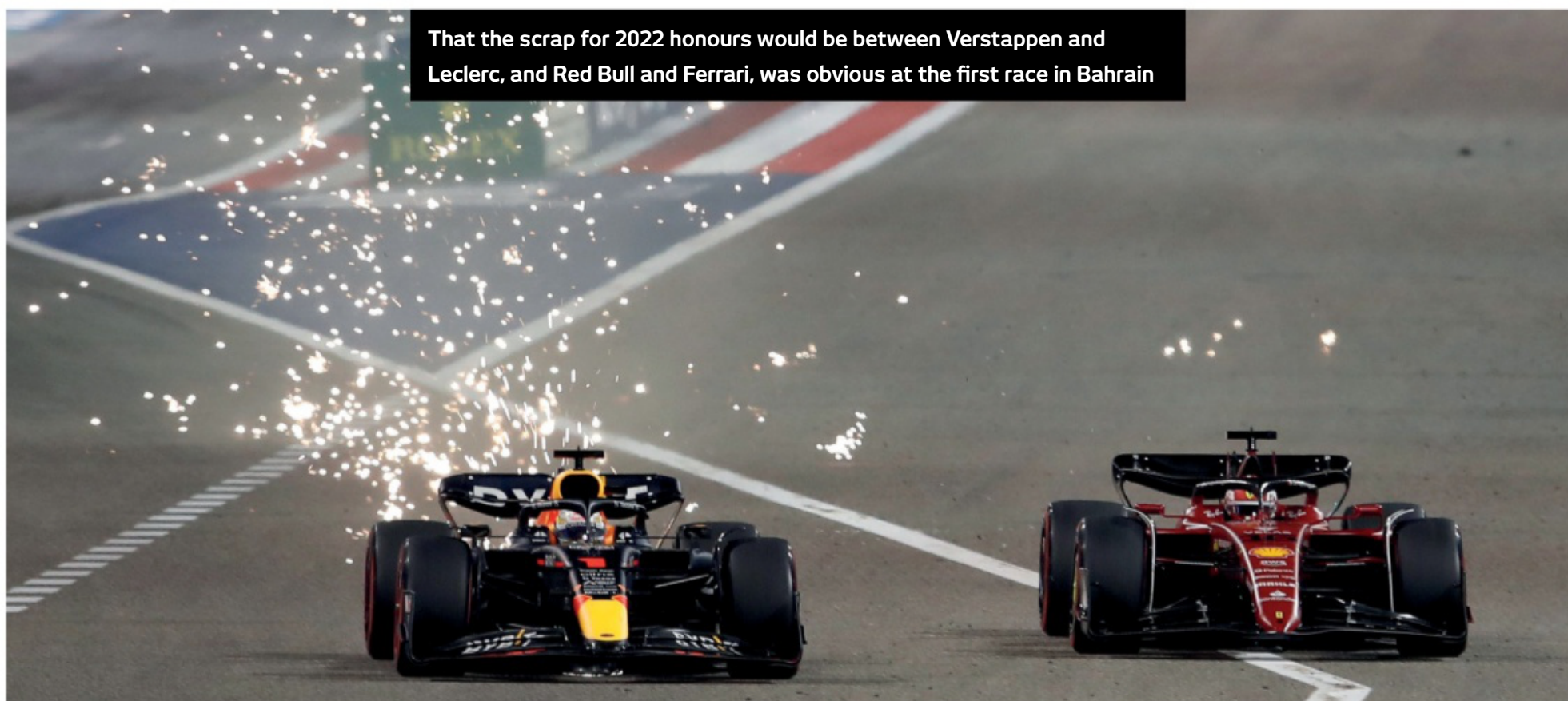
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more importantly, now that Ferrari has seemingly sorted out its drag levels, on all types of circuit.

Mercedes, in spite of its woes, was solidly picking up points early on and from time to time we saw some of the promised performance unlocked – only for it to be incarcerated again at the next appearance. There is no doubt Mercedes' slightly unconventional design has performance, but equally it appears to be a car where it's difficult to find the sweet spot of set-up. I've had cars like this in my career and they flatter to deceive. Just when you think you're getting to understand them, they bite you! That said, Mercedes is now clearly the third-best team, albeit around half a percent off where it needs to be to challenge for wins.

McLaren, after a promising start in testing, has become locked in a battle with Alpine. McLaren gained from a good haul of points in Australia and San Marino, while Alpine has not only been more consistent but

had appeared, until France, to be both faster and improving more. Both teams, for different reasons, are achieving less consistent results than one would like but Alonso can always make the most of a situation, while Riccardo's troubled season is masking some car performance aspects.

Alfa Romeo clearly has a good car and two talented drivers but reliability is compromising its

OVERALL, FERRARI HAS THE QUICKEST CAR ON MOST CIRCUITS BY A SMALL MARGIN BUT IT NEEDS TO MARRY THAT TO THE BEST TEAM. THAT IS WHERE RED BULL IS DOMINANT

season, while Aston Martin and Williams have a long way to go to be consistent points challengers.

Overall, Ferrari has the quickest car on most circuits by a small margin but it needs to marry that to the best team. This is where Red Bull is dominant. Consistent sub-three-second pitstops and clever strategy calls show just how together the Milton Keynes team is.



ALGARVE RACE RESORT

SOMETIMES YOU JUST NEED TO SLOW DOWN



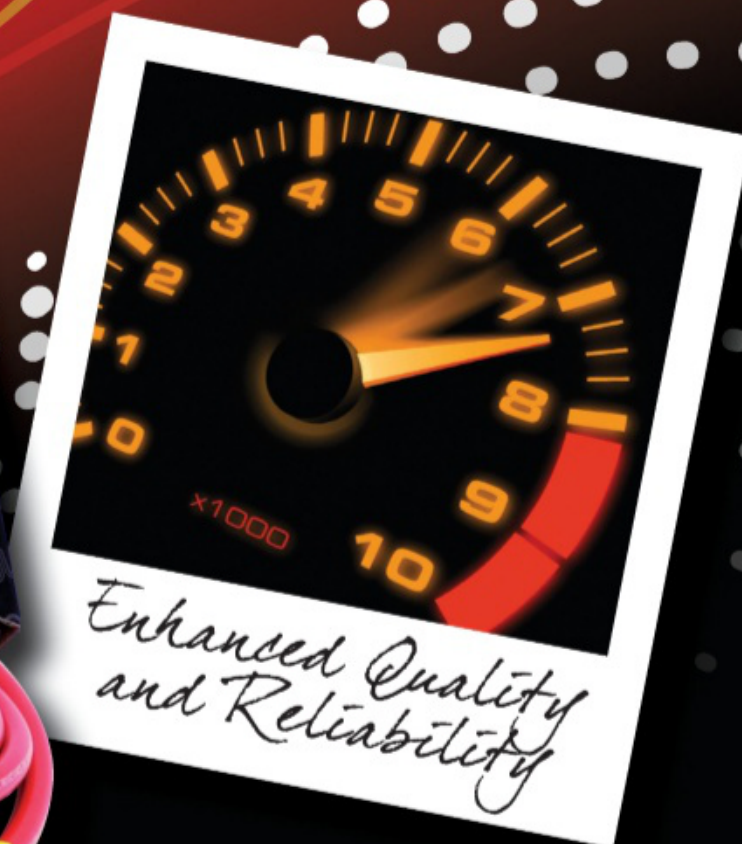
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STRAIGHT TALK

MARK GALLAGHER

[@_markgallagher](#)

brought with it a darker side. The one in which even a short time spent on Twitter can quickly lead down a rabbit hole of racism, misogyny and homophobia. To see the contemptible abuse levelled at black female broadcasters such as Naomi Schiff, an authoritative and fresh addition to *Sky Sport F1*'s line-up, is appalling.

Fortunately there is another side to the social media revolution, one which is helping to drive the sport's audiences in more positive ways. The proliferation of content creators, most of whom are amateur, generating video content, images, podcasts and blogs which entertain and educate existing fans and lure new ones into the fold.

Toni Cowan-Brown is one such, a 37-year-old motorsport content creator based in San Francisco. Born and raised in Europe, Toni moved to California with her husband four years ago to work in the tech sector.

Having previously followed F1 on and off – her father used to take her to Spa-Francorchamps – she started posting about the sport on TikTok during the early stages of the global pandemic.

"It was a perfect storm for F1 because *Drive to Survive* coincided

with the pandemic lockdowns, the growth of Twitch and the creator economy. Then TikTok took off," she said.

Cowan-Brown started by making short videos explaining how Formula 1 works, then produced a Beginner's Guide. By combining entertainment with education she was helping feed Formula 1's growing audiences, answering the questions which these eager new fans wanted to ask.

She now has over 75,000 followers on TikTok and was invited by Aston Martin to join the team at May's inaugural Miami Grand Prix. While F1 focused on celebrities, Aston Martin made room for this new breed of content creator.

"Everyone I interacted with at Aston Martin was young, female and everything other than a middle-aged white cis man," she told me. "They gave me free rein to hang around the garage. It was a breath of fresh air." The result was 18 videos which generated 21m views.

As teams increasingly engage with content creators the opportunity to further accelerate F1's growth is clear. With an estimated 50m content creators globally, 8% of whom are professional, the creator economy is now reckoned to be worth approximately £86bn annually.

This tidal wave of talent will, with the right support, help to further increase F1's reach. It might also help turn on-line Formula 1 interactions into an altogether more enjoyable experience.

BUILDING THE RIGHT SOCIAL AUDIENCE

Assuming you follow F1 closely, chances are you consume it through multiple devices across a number of social media platforms.

You know the form. Streaming races on TV while running live timing through the F1 app on a tablet and interacting with the Twitter feeds of teams, drivers and fellow fans on your mobile.

When F1 revealed its 2021 media figures back in February, it was again the fastest-growing major sporting championship on social media. Across Facebook, Twitter, Snapchat, Instagram, Twitch, YouTube, TikTok and the Chinese platforms – Weibo, WeChat, Toutiao and Douyin – followers were up 40% to 49.1 million.

The statistic which really shone was the number of video views. At 7.04 billion across *formula1.com*, the F1 app and social media platforms, it made you think. Yes, those figures are cumulative but, even still, there are only 7.8 billion of us on planet Earth.

The rise of social media has been one of F1's successes under Liberty, but it has unquestionably



Toni Cowan-Brown is one of a new breed of F1 content creators. She was invited to the Miami GP by Aston Martin, and her videos from there have garnered over 21m views

THIS MONTH

Kate Beavan

Advisory board member, More Than Equal

Having spent over two decades in Formula 1, first as legal adviser at Tom Walkinshaw's Arrows, then as Bernie Ecclestone's confidante in matters legal and commercial at FOM, Kate Beavan knows everything that's worth knowing about the business. Now she's lending that expertise and energy to an initiative that will bring a female driver to F1

CV

2021

Founder, New Quebec Advisory

2017 - 2021

Director of Hospitality and Experiences, F1

2003-2021

Commercial Counsel, F1

1996- 2003

Senior Counsel, TWR Group

GP Racing: You've been in Formula 1 for a very long time, and been hugely influential and well known, while maintaining quite a low profile outside it. How have you managed that?

Kate Beavan: Because there is no life outside F1! I've been doing this for nearly 25 years now, I started as a young lawyer with Tom Walkinshaw Racing even before he bought Arrows. He had the V8 racing in Australia and was doing the BTCC with Volvos, and then he bought Arrows. And that was my first introduction, really, to F1. I stayed with Tom until the TWR-Arrows empire went bust and then got a phone call from Bernie [Ecclestone] who said, "Come and work for me." And I said, "Bernie, I'm sick of Formula 1. I've had enough of it for a lifetime." And I think he took that as a personal challenge. But Bernie is such a charmer that I couldn't say no in the end. So I joined, thinking I'd do it for a couple of years, and ended up staying for 18.

GPR: How does a lawyer then go and work in hospitality?

KB: I came in with Bernie running the intellectual property, which is a pretty big department. And the thing with Bernie, as you know, nobody had job titles or defined roles too much. And he would get me involved in ad hoc commercial projects. So I got involved in some of the bigger projects on the commercial side and decided I liked that a lot – more than being on the back end of a deal, which is where a lawyer usually sits. I really enjoyed the licencing deals, projects and sponsorships, and migrated from legal to commercial.

And then when Liberty came in, they said to us, "We don't really understand what any of you do, because none of you have job titles. What role do you want to do?" I sat down with Sean [Bratches, commercial MD] and we went through it and I said, "You know what I really, really want to do, unfinished business where I know I can make a difference,

INTERVIEW
STUART
COOLING

is hospitality and experiences. We need to completely rethink that business, do some radical changes." And that's how it happened.

GPR: So you took that from being very high-end only into a much broader offering?

KB: We did the F1 two-seater programme, branded it up as F1 Experiences and took guests out, and they absolutely loved it but it was hellishly expensive and not very scalable – because you could only have two cars in the garage. So I was trying to figure out a way of making it more scalable, and that's how the Hot Laps programme came about. I thought that since we've got all these car manufacturers in F1, why not showcase the product? You've got more cars on the grid, you've got scalability, the experience as great and people are less likely to be sick than they were in the F1 car.

When I first came up with the idea of taking people round the track on the flatbed truck, with a professional racer talking them through the lap, it was difficult to persuade people to come down from where they'd been sipping champagne in the Paddock Club. I think we had about 12 people on the first trip. But now it's fully subscribed and they're taking on more trucks. It's about simple pleasures sometimes. The answer isn't always money and technology. It's about fun.

GPR: When did you get involved in More Than Equal?

KB: : I had my first conversations in Miami. And I was interested straightaway because of who's behind it [backers include ex-F1 driver David Coulthard] and because it's a really simple ambition. And it's very achievable. Isn't it exciting to think that if we put our shoulder to the wheel, you could get a woman lifting the drivers' championship trophy within 10 years?



WHY RED BULL IS MAKING ITS OWN HYPERCAR

Remarkably, the collaboration with Aston Martin on the Valkyrie didn't quite cut it. So Red Bull's Advanced Technologies division is going to become a car maker – to enable legendary engineer **Adrian Newey** finally to achieve his ambition of designing a driving machine unbound by rules...

PICTURES  **motorsport**
IMAGES
RED BULL CONTENT POOL
AND LAMBORGHINI

“Adrian was eager to do another car... and we felt the time was right to do it as a Red Bull car.”

With casual, if almost apologetic ease, Red Bull team principal Christian Horner outlines why his company is expanding into the car trade – if such a humble-sounding term can be applied to the first project out of the blocks, a carbon-composite hypercar combining ground-effect aerodynamics and an 1100bhp engine, retailing at £5million “plus taxes”.

One of the costs of keeping superstar engineer Adrian Newey on board, besides his salary, is that periodically he requires a side project which enables him to operate outside the kind of tightly prescribed rules which he feels stifles his creativity in F1. Ally this with the need to redeploy staff away from the F1 project to comply with the budget cap, and the business plan could almost have written itself. Newey remains engaged, as will many skilled employees who might otherwise have faced the axe. While becoming a low-volume car manufacturer entails an element of risk, it enables Horner to retain or even expand the talent pool at the Red Bull Technology Campus in Milton Keynes.

“Our staff are our biggest asset,” Horner says.

“Red Bull Advanced Technologies has existed since 2014, it's been growing and developing in its own right and, with the advent of the financial regulations, what it's enabled us to do is rehome incredibly capable staff who otherwise might have been lost to the business. It's enabled us to maintain that talent within the group and there will be new talent development as well.

“F1 dominates what we do but out of that comes other activities – not just cars, we've got a collaboration with BMC bikes, we're heavily involved with a leading team in the America's Cup, and we're designing a submarine for three to four passengers. So being able to retain and attract talent has been incredibly important to us.”

This will be Newey's third non-race car although the first, a flight of fancy named X2010, was never intended for production and only existed in the real world as a full-size model used to promote the PlayStation game Gran Turismo 5. X2010 was driveable in-game, but its performance was entirely imaginary. Nevertheless it provided a pointer to what was to come when Newey next got the itch to get involved in a road car project.

“We had an approach from Sony asking me if I could design a car which didn't respect any regulations, whose pure purpose was to go as fast as possible,” he said at the time (2010). “If we didn't have regulations the opportunity exists to make a car that would be really quite obscenely quick around a lap.”

Five years later Newey got the opportunity to design his ultimate road car for real. Recently installed Aston





Newey's first non-race car 'project' was the X2010, designed for Sony's *Gran Turismo 5* game, although he did get to touch a full-size model of it (above)





The Valkyrie is an impressive machine, but had a troubled production and restricted Adrian Newey's creativity



Martin boss Andy Palmer, known to Red Bull through his time at sponsor Infiniti, discussed the idea of creating a mid-engined supercar with Horner and Newey over a convivial lunch of sausages and mash. For Horner this was a most serendipitous piece of timing, since Ferrari had just made one of its periodic approaches to Newey with a lucrative offer to decamp to Maranello. In a slough of despond over the direction of F1 – this being the early phase of the hybrid era when the power unit was king – Newey was ready to take the bait, since the position included a road car remit. The project which would become the Valkyrie therefore offered the holy trinity: Newey got a much-needed opportunity to creatively re-energise, Horner got to keep his star engineer, and Aston Martin got to attach a halo car touched by genius to its IPO prospectus.

The finished Valkyrie certainly appears to fulfil the brief of being the ultimate roadgoing supercar: its performance figures (over 1800kg of downforce from race-bred aerodynamics, and 1000bhp from a Cosworth-developed naturally aspirated V12) eclipse Gordon Murray's seminal McLaren F1. But it endured a protracted and troubled genesis, arriving much later than planned: the first production example wasn't completed until late last year, months after an embarrassing public debut for the car when a pre-production model broke down at Goodwood with automotive 'influencer' Shmee150 aboard.

Development of the Valkyrie fell behind schedule in 2019 as Aston's share price crashed post-IPO, and Newey reportedly became frustrated at working within the regulations that govern road car design, where even headlamp height is prescribed. When Lawrence Stroll's consortium snapped up Aston Martin early in 2020, firing Palmer in favour of AMG's Tobias Moers (now also gone), and subjecting the Valkyrie programme to cost cuts which entailed further design constraints, Newey and Red Bull exited the project. A legal spat between Aston Martin and its former partner Nebula Project AG (set up by a Swiss dealership to part-bankroll the programme) over customer deposits, plus Aston's announcement that it intends to build more Valkyries than originally planned, suggests this project continues to spurt red ink over the balance sheet.

Fabulous though the Valkyrie might be, then, it is not the no-compromise race car for the road Newey intended it to be. And, done properly, low-volume supercar manufacture isn't necessarily financial suicide: Lamborghini, for instance, has banked a tidy profit building boutique one-offs based on the Aventador for high-net-worth individuals.

Red Bull's plans are shot through with pragmatism.



With the SC20, based on the Aventador, Lamborghini has shown that low-volume supercar manufacture is possible

No launch date has been set – Horner describes it as “a circa five-year project” with “delivery starting from circa 2024” – it will be a track-only vehicle, so Newey won’t suffer the bedevilment of type-approval red tape, and the projected price of £5m is twice that of the Valkyrie. No more than 50 will be built, and the production target is 15 a year. All of this can be accomplished on-site without recourse to external contractors, though the engine may be bought in.

“We’ve got the capability of doing a limited production vehicle,” says Horner. “It enables us to take all the experience from previous projects, the DNA of what we have here – the technology, the skills sets – and it will complement what we’re doing in F1. The kind of volume we’re talking about, it’s not like we’re setting up a huge production line. We have the capacity on site.”

The new car’s name, RB17, positions it as the missing link between Red Bull’s F1 cars: it’s the name which would have been applied to the 2021 race car if F1’s pandemic circumstances hadn’t dictated teams compete with B-spec 2020 cars during that season. Its creator is determined that it will be defined by its heritage.

“When we first talked about it, the starting point was

RED BULL’S PLANS ARE SHOT THROUGH WITH PRAGMATISM. NO LAUNCH DATE HAS BEEN SET – HORNER DESCRIBES IT AS “A CIRCA FIVE-YEAR PROJECT” WITH “DELIVERY STARTING FROM CIRCA 2024”


that F1 cars are extraordinary beasts,” says Newey. “How about we start to design and develop a car that uses all the same methodology and technology we apply to our F1 cars, in a passenger car we can sell to customers, offering F1 levels of performance?”

RB17 will have two seats but apart from that, this track-based special will cleave to the F1 template: it will use a carbon-composite tub built in-house, feature

ground-effect aerodynamics, and be powered by a hybrid engine.

While Newey says the engine will be a V8, and the desired output is in the region of 1100bhp in order to hit performance targets, “We are now considering how we do that.” Red Bull has its own powertrain company, albeit a young one, so it may call on a specialist during the development process.

“I find it slightly embarrassing when we mention the £5m price,” says Newey. “But the reality is, as Christian knows, I’ll spend whatever the income is. The bill of materials that goes into these cars is frightening, plus the research and testing. When you’re only making 50 it’s a number that creeps up on you.”

“I endorse that,” says Horner. “I think the one place Adrian can’t find on campus is the finance department...” 



A year ago **Daniel Ricciardo** was under fire at McLaren, but turned his season around with a spectacular win at Monza. Now he's got to do it all over again just to preserve his place in Formula 1...

WORDS **OLEG KARPOV**
PICTURES  **motorsport**
IMAGES

THE DRIVE TO SURVIVE



It's classic Daniel Ricciardo. As we take our seats at the table on the first floor of McLaren's hospitality unit, he flashes a wide grin and extends his hand, inviting *GP Racing* to a lively handshake. He's at the end of a marathon of sorts, having had several consecutive interviews crammed into his schedule after the FIA press conference, but he's still chipper and ready to answer questions – even though most of them won't be of the pleasant variety. He's used to it, after all. It's become his routine – pretty much from the start of his McLaren tenure.

It's the Thursday ahead of the Hungarian Grand Prix, and only a few in the paddock have even the faintest idea of how crazy the next week will be. Ricciardo knows he's facing a fight to retain his seat at McLaren – he's about to learn that fight will be to retain a role in Formula 1. For now all he knows is that his old team-mate, social mediaphobe Sebastian Vettel, has started an Instagram account seemingly with the sole purpose of informing the world of his impending retirement. It's an announcement which has caught many people off guard, as will the manoeuvrings of the days to come...

BACK TO BASICS



Hungary in 2021 (above) was a low point. A year later he chats to old team-mate Vettel (below) after Seb's surprise retirement news



Daniel knows his stock has been in decline this season but he holds on to the knowledge that he's dug his way out of tight spots in the past. This is far from the first time he's gone into the August break in bad spirits.

Last year, having just finished 11th in Hungary, Ricciardo spent nearly a minute in the cockpit of his stopped McLaren before climbing out. He had 50 points to his team-mate's 113. After effectively ending Nico Hülkenberg's F1 career and stripping Esteban Ocon of his status as one of F1's hottest young properties, at McLaren Ricciardo has encountered a young, ambitious but also sufficiently experienced and team-integrated Lando Norris. Who, as it turns out, is also scary-fast.

Daniel struggled to adapt to the McLaren MCL35M, which proved a different beast to the Renaults and Red Bulls he'd dealt with before – and, during their first half-year together, McLaren bosses never saw the Ricciardo they'd recruited.

The break in the summer of 2021 was timely.

"Well, last year, it was all pretty overwhelming," recalls Daniel.

"The struggle I was going through was unexpected. I was thinking I'd do a lot better than I was doing. And we were just so much in it, trying to figure it out, but we weren't really getting anywhere. So, it was just like... 'I just want to get away. Just give me a few weeks to have a think, reset, just clear my head.'

"Because, like a lot of sports, so much is mental, you know, so all of us on our day can be amazing and can drive fast and whatever. But yeah, there was just a lot of noise in the head and stuff, and I think as well we were just working so hard, trying to understand it, that we also needed to switch off, step back.

"I had a nice break. And then I came back and just felt like, okay, let's refresh. I was also, you know, not really expecting anything. Just go drive, have fun, don't think, 'Am I gonna be P15 again?' Just don't think about the result, really, go drive and just push the car and don't give a shit.

"Because you can overthink it. Especially when there's so much data, there's so many engineers and so many things happen so fast, ▶





you are processing information so quickly in this sport, that it's already a lot. And then if you have a lot more chatter and 'do this, try that', you can just become exhausted. So sometimes you have to break it down... literally go to basics.

"Just drive the way you think is right and then see what happens."

SMELLING BLOOD IN THE MONZA WATER

It was at Monza where Ricciardo not only rescued his season but also bought himself time to figure things out. Last year's McLaren had its quirks, but it was a weapon on high-speed tracks. Daniel still lost to Norris in qualifying, but only by 0.006s – and with it being a sprint, he had the opportunities afforded by at least two starts. And if there was one thing he could do well with the MCL35M, it was getting the car off the line.

"I definitely felt better after the break," he says. "And I was still holding a bit of anger, that I know I can do better. I *know* it. I see others do podiums,

and this and that. And I was just, really, 'I know I can do it'.

"[At] Monza we put the car on track and it was competitive. And I was just like, 'Right, this is a weekend where I don't want to leave the track frustrated again, angry. None of this shit. I just want to get everything out of it.'

"I had a little bit of a chip on my shoulder. I was a bit angry, but in a good way. And then I got outqualified by Lando and Max [Verstappen] by something really small, and while that made me even more angry, that was good. Because then I knew we had the sprint and then the main race.

Ricciardo's 2021 Monza win (above and below) came after a recharging summer break. It saved an otherwise poor first year at McLaren, but Dan has a bigger battle on his hands now



My stats were really good last year, so I had a lot of confidence in that. And I was like, ‘OK, I’m moving forward every start.’”

Ricciardo made up two places on Saturday, and picked up a front-row spot thanks to Valtteri Bottas’s penalty. Another clean getaway on Sunday meant he was leading Max Verstappen out of the first chicane.

“I personally think it’s a sign of a true competitor – you know if you smell the blood, you just can’t let it go,” he says.

“You’re attracted to it, you know you want it. I mean, Monza, it was an opportunity which I knew was there. And it was the opportunity that I’d been wanting all year or three years. Even [sitting] on the front row, I knew a lot of people were saying, ‘Can you get a podium?’ Deep down I was thinking, ‘Ah, I think I could do more.’”

Verstappen and Lewis Hamilton colliding helped, but even by that point Ricciardo had already been in control.

“On paper actually it looked quite boring, because I led into Turn 1 and I led the whole race,” he smiles. “But yeah, I was so happy being in the lead and being in control. And it felt so good. Where normally, if you’re winning, whether it’s... anything in sport, a lot of the time you’re thinking, ‘Alright, let’s finish the game now, [give me] the trophy,’ you know, you start to get nervous in front. Or if you’re supporting a football team, and

it’s 2:0... just blow the whistle already!

“For me, when I was in the lead, I was thinking, ‘No no no, I want to enjoy this feeling. I want every lap to go. And I don’t want to just see the chequered flag.’ I was the target, and I enjoyed being a target. I wanted to enjoy that moment, the moment I’d wanted for so long.”

THE CAR STILL HAS ITS QUIRKS

What a difference a year makes. The Monza win was a bright spot, but only a spot. Ricciardo would score in just three of the eight races after that.

And a technical rules reset for 2022 hasn’t helped either McLaren or Daniel himself. The team hasn’t managed to break out of the midfield, and the driver found the MCL36 has inherited some of the tricky characteristics of its predecessor.

“To be honest, the car is still... The regulations make the car feel different, but like the DNA of the car is still very similar,” Ricciardo says. “I would say some of the things from last year which I struggled with, they are still in this car.

“It’s something I think we’re starting to understand better. Because obviously I tried to describe it, but to really understand – is it aero, is it [suspension] geometry – you know what I mean?

“So, I think we’re starting to understand better what it is, and Lando also

complains about it. I think he’s just used to it. But I think he also knows that something is giving me this feeling. And it’s one that, I mean, some days when it’s eight-tenths off... I don’t believe this can be possible, you know?

“Because if you look across the grid, even the best driver on the grid, whoever you say it is, they are not eight-tenths better than the second-best. This is a big gap. So, there is still a lot I’m trying


to learn with the car and understand, not always that easy to figure it out, but I feel we’re getting closer.”

You only need to look at the points table to understand why McLaren started looking for a replacement. Points don’t always reflect the real state of play, but even Daniel himself won’t argue – on a good day he’s close to and sometimes even level with Norris, but the bad days are the ones forming the impression.

“It’s similar, from a results [point of view] and on-track stuff,” he concedes, comparing the first half of this season with the previous one. “I’m still not fully in charge of the car.

“I still think it’s something relatively small. But then again, sometimes on the stopwatch it’s very big. So I’m like, ‘OK, maybe it’s a little bit more than something small.’

“I don’t know, I say it’s like dancing with a partner. If you are out of sync, you can’t dance. So, if I feel a little bit out of sync with the car, then I don’t feel I can do everything I want to do. And it’s not an excuse, but it’s the feeling I’m trying to chase. And that is something I’m still looking to find. ▶



“MONZA, IT WAS AN OPPORTUNITY WHICH I KNEW WAS THERE. I KNEW A LOT OF PEOPLE WERE SAYING, ‘CAN YOU GET A PODIUM?’ DEEP DOWN I WAS THINKING, ‘AH, I THINK I COULD DO MORE’”

“But my mentality is better, where I think because I experienced last year I’m a little more balanced this year, and for sure I’m still angry, frustrated, but I’m controlling these emotions better to a point where I don’t let myself go too low. Because it wasn’t productive last year, I think. It’s OK to be angry and show emotion. But don’t let it carry on for 48, 72 hours, you know, let it be there for two, three hours, and then you have to move on. So this I’ve managed better. Unfortunately through experience.”

HOLDING HIMSELF ACCOUNTABLE



Ricciardo with McLaren CEO Zak Brown in Spain (above). It was after this race that Brown called into question Dan’s performances

way to points before an engine failure, and in Australia he was right behind Norris in sixth. It was Norris’s Imola podium that made for most of the gap between them, and Daniel was close to Lando before his early collision with Carlos Sainz. An engine failure and a minor early race gaffe on a damp track can be decent excuses, but Ricciardo didn’t make use

“I WANT TO STAY HARD ON MYSELF, SO THAT I KEEP MYSELF ACCOUNTABLE. BECAUSE I THINK THE TRUTH IS, IF I TRULY AM GREAT, AND IF I TRULY AM SPECIAL, I SHOULD BE ABLE TO FIND A WAY TO OVERCOME THE LITTLE THINGS”

of them in response to Zak’s comments.

“Sometimes I should probably be more, like, ‘Ah, yeah, we didn’t [score], because we had a problem with the car,’” he says. “I don’t know... This sport is so complex, that I think if you dig deep enough, you’ll probably always find an excuse.

“But I know there are a lot of people, especially in the factory, watching. So I think people will start to lose faith in you, if you’re always just saying this.

“I expect a lot from myself. So even if something isn’t perfect, I still feel I should be able to overcome it. So OK, yeah, the car wasn’t perfect, but I should have found a way to be better.

“I want to stay hard on myself, so that I keep myself accountable. Because I think the truth is, if I truly am great, and if I truly am special, I should be able to find a way to overcome the little things. So I think because I have that belief in myself, if it’s obvious [there’s a problem with the car] ▶

Daniel is a unique character, and one whose struggles it’s difficult not to have sympathy for – but F1 is a performance-driven world. Earlier this year McLaren CEO Zak Brown spoke of “mechanisms” to end Ricciardo’s deal before its term was up. While these might have been blown out of proportion at the time because other news was thin on the ground, the message was clear: McLaren wasn’t prepared to wait long to see Ricciardo deliver.

In all fairness, his start to 2022 wasn’t all that bad, especially in terms of speed. In Bahrain the car wasn’t competitive, in Jeddah he was on his



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I'll point the finger. But otherwise, I just want to move on.

"For sure the results say something, but it's not the full picture. Even me, sometimes I look at just the result and I think, 'Ah, that's not good,' but I will sometimes forget why. And actually after I dissect it then I think OK, it's not perfect, but actually we did OK considering.

"But, yeah, comments like whatever with Zak or the media, I don't really... it is what it is. I know the sport is gonna have this speculation. There's 20 of us in the world that do it, and it's part of it. And even if it's blown out of proportion... it is what it is."

THE LEGACY QUESTION

Perhaps excuses just don't fit someone who was brought in as team leader – someone whose [supposed] eight-digit salary isn't in the budget for him to "sometimes be close to his team-mate".

There's something fundamentally wrong between Ricciardo and McLaren. It's way too simple to say that Dan just needs to recharge, "go back to basics" and "just drive". Especially as the circumstances are making it much harder this time around.

"I still believe I can do it," he says, as our interview time in Hungary approaches its conclusion. "That's one thing. And then, I still love competition. I love going wheel-to-wheel but, yeah, simply I still believe I can win and I want those highs. I like when the lights go out, that feeling, the adrenaline, the rush.

"Obviously, the last 18 months proves that I'm not perfect. But I still see weaknesses in others as well. I don't think anyone is out of reach. On my day I can still beat anyone on the track. So


all these things keep me motivated and give me that fire."

How will he react now, knowing that his team looks to have finally lost faith in him? Can there be a reset? Has he still got it?

There are more questions about Ricciardo's future than answers.

Is he still the same Daniel Ricciardo who defeated Sebastian Vettel in their only season together at Red Bull? Is he still the driver whose defection to Renault was one of the biggest transfer shocks in many years in F1?

Can he still ensure that's what he'll be remembered for, rather than as someone who got comprehensively beaten by Lando Norris and then became collateral damage in one of F1's silliest silly seasons? Can he still leave this sport on a high?

The power to answer some, if not all, of these questions resides within Daniel himself. 

"I STILL LOVE COMPETITION. I LOVE GOING WHEEL-TO-WHEEL BUT, YEAH, SIMPLY I STILL BELIEVE I CAN WIN AND I WANT THOSE HIGHS. I LIKE WHEN THE LIGHTS GO OUT, THAT FEELING, THE ADRENALINE, THE RUSH"





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CARLOS SAINZ

Ferrari's Spanish ace took a while to adapt to the latest generation of ground-effect Formula 1 cars compared with team-mate Charles Leclerc. But everything seemed to click from the Canadian Grand Prix onwards: he won at Silverstone and had the speed to win in France – if he hadn't been forced to start from the back...

Did winning at Silverstone provide a confidence boost? Or is it something you feel more in yourself elsewhere?

It's just not having the question of 'when are you going to win?' – that was the biggest thing! I was pretty clear in my mind that the moment was going to come sooner or later and I'd been close a couple of times before. And this year I kept believing it was going to happen. It didn't relieve any sort of stress or anything, because in Austria [the first race after Silverstone] I felt very similar to any other race weekend. But it keeps giving me the feeling that I'm closer and closer every time this year, and then in Austria it was a good example of being in the fight for the win again [before Sainz's late-race engine failure], which is exactly what I'm intending to do in every race.

Ferrari has had some momentum lately [up until Hungary], given your near-win in Canada, that Silverstone victory, Charles Leclerc's Austria triumph, and both of you being fast at Paul Ricard. Can the team now worry Red Bull at every race?

Not only the team, I had momentum too after coming from fighting for the win in Canada, winning in Silverstone, fighting for the win again in Austria and being in the mix the last few races. And actually getting a lot of points and feeling like I was getting my championship hopes back up. And then suddenly there was the zero [in Austria] that didn't come at a very good time.

But the good thing is that we can win every

single race that we go to if we nail it. The car is super-strong and it keeps improving every race. We keep finding laptime with it.

Ferrari introduced a new clutch for its works and customer squads recently – how much was the old version a hindrance?

We identified an issue on our car that wasn't allowing us to perform the starts we were doing last year, and was probably affecting our fellow engine team-mates [Alfa Romeo and Haas]. But we know where the problem lies. We're keeping it private and we don't speak a lot about it because it's not like in every start we're falling back. But it's probably not been the best starts we can get, and hopefully we will keep improving it through the year and into next year.

Your Austria fire was pretty scary and the reaction afterwards prompted the marshals involved to defend their actions – what did you make of that?

I can understand why they wrote [their statement] because I guess what I said after the

race felt like a criticism to them. I didn't intend at all for it to come out as criticism. Because I'm the first one to speak highly about marshals and the heroes that they are, and the way they volunteer to protect us. I never wanted to make it sound like a criticism to anyone.

I just wanted to make sure it was analysed and see where we can do better next time. Because it wasn't a comfortable moment in the car. And it felt a bit hectic at the time and a bit messy. So, yeah – the explanations didn't arrive to me, I saw them through the media, which is maybe something I need talk about with the FIA.

The FIA stated everything went according to its procedures, but what can be learned from such incidents when a car on fire is rolling down a hill?

If that is the procedure then it shows we need to shorten the timings of the procedures, which is what I'll discuss with the FIA. Because I'm sure everyone did the best of their abilities in the moment. But we just need to see how we can make it faster so next time, if a car is rolling back, we react a bit quicker and that's it.

It's been very hot in Europe this summer – does your father offer any tips on keeping cool from his rallying days?

No. Nothing can help me apart from a cold bath before jumping in the car. That is what I normally do and it helps. Being used to this heat now in Europe is important – I've been training a lot at these temperatures recently so when I jump in the car it feels like it's nothing new.

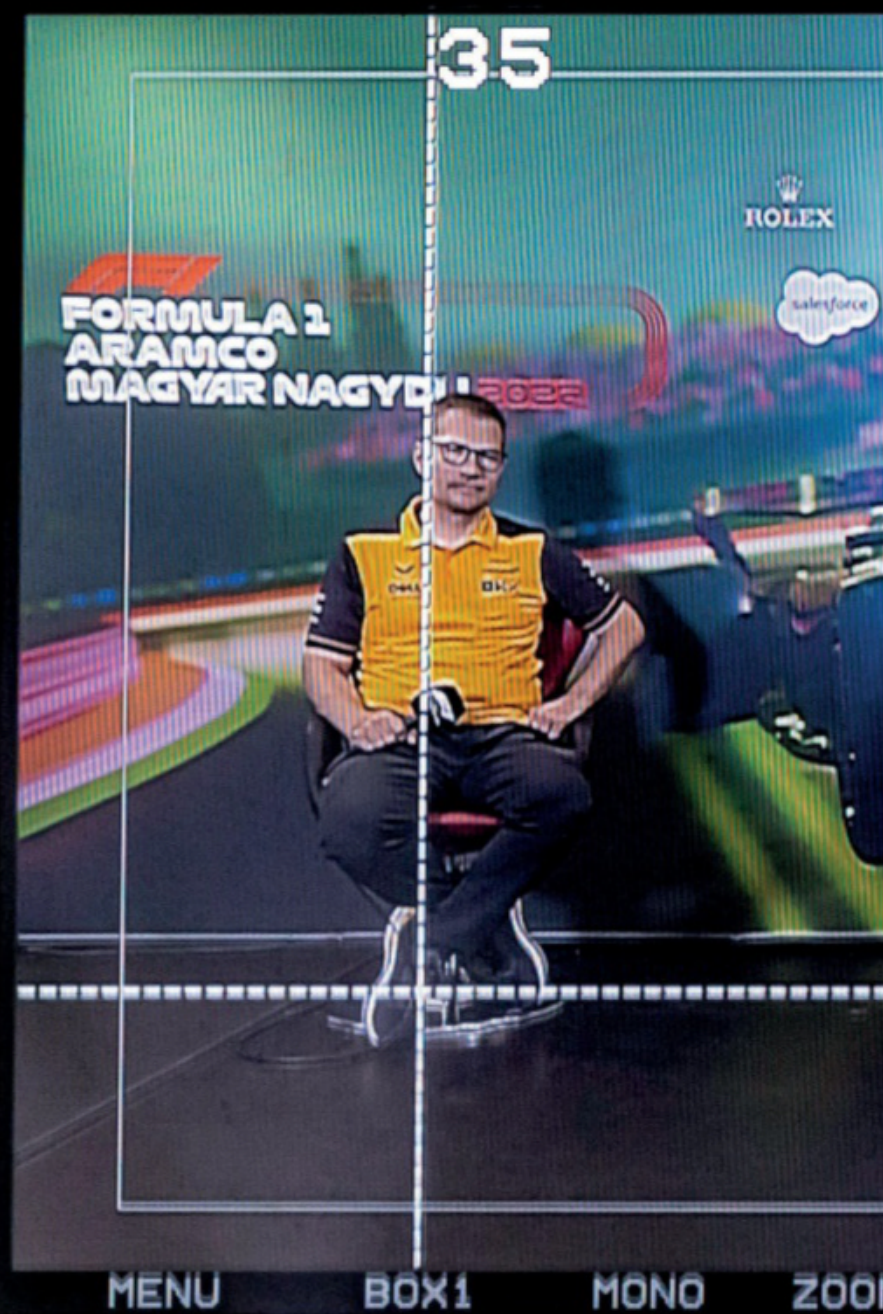
THE GOOD THING IS
THAT WE CAN WIN EVERY
SINGLE RACE THAT WE GO
TO IF WE NAIL IT

A PRINCIPAL'S WEEKEND

Ever wondered what a Formula 1 team principal actually does at a grand prix? *GP Racing's* cameras followed Aston Martin team principal **Mike Krack** to open a window into the TP's race weekend world...

WORDS ROBERT HOLMES

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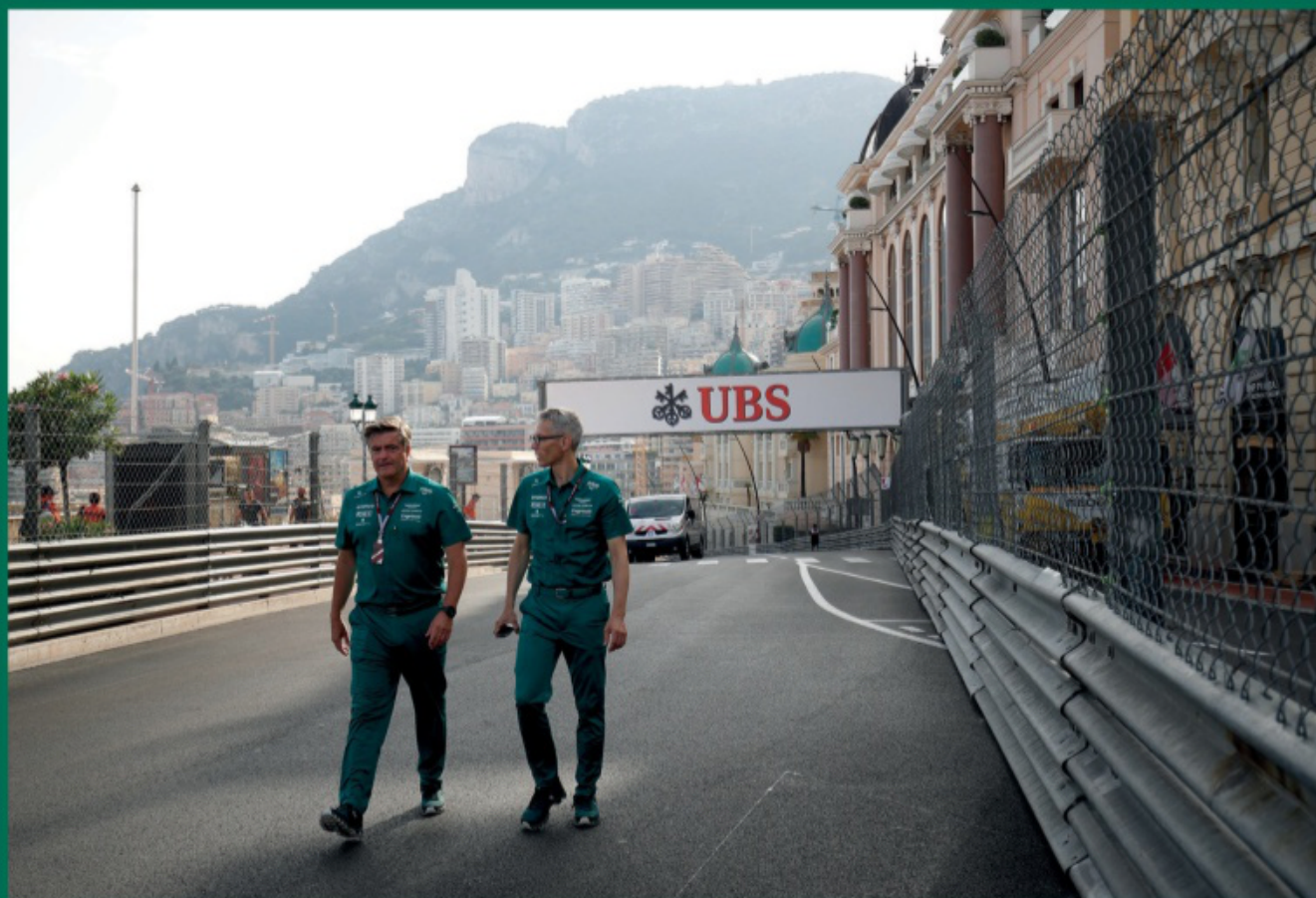




THE TRACK WALK

Not all team principals join the regular Thursday evening track walks (Sebastian Vettel's race engineer Chris Cronin and his performance engineer Vincent Boutroux are seen here with Seb and Mike, below; on the left Krack is with sporting director Andy Stevenson) but they're a great bonding exercise. Since the TP carries responsibility for the team's results, back at the factory their days are dominated by meetings with various heads of department. Here at the track is where that has to be translated into action, and exploring the circuit at ground level can reveal nuances you don't see on TV.

Since he comes from an engineering background, Krack likes to be across all technical matters so the track walk is an ideal place to discuss them in an informal way. It's also great to get out from behind the desk if, like Mike, you're a keen runner and like to stretch your legs after a day of meetings...





FACING THE WORLD

Another aspect of the team principal's race weekend far removed from their day-to-day factory duties is the frontman role. Acting as team spokesperson not only presents a unified face to the world, it enables the rest of the team to focus on the job of preparing for the race without being interrupted by content-hungry TV crews.

Even before the Netflix show *Drive to Survive* vastly augmented the number of cameras in the F1 paddock, pay-TV networks and national broadcasters all sent large numbers of camera crews. The FIA arranges its own partially televised press conferences; Saturday's one is usually the province of the team principals (see p48-49), but sometimes the governing body likes to feature senior engineers to add variety. For Aston Martin, Krack is called upon most regularly, but chief technical officer Andy Green and performance director Tom McCullough are also on the FIA's list.

In Hungary, Sebastian Vettel's retirement dominated the news agenda at the beginning of the weekend so, naturally, Mike was first to be grilled about his feelings about Seb – and who might replace him. Tricky tasks both, since Krack was an engineer at BMW when Vettel tested for that team, and in the present day there was the small matter of the moves behind the scenes to bring Fernando Alonso to Aston Martin.

"I think this weekend we should keep Sebastian in focus, and not speculate about names," he said, diplomatically. "We will take care of that from Monday onwards..."

After the FIA conference the team principals move to the TV pen (top) to rotate through various broadcasters. As you can imagine, there's considerable overlap and duplication, but the key is to keep smiling... it also helps if, like Krack, you're a polyglot: he can speak in his native Luxembourgish (a Moselle Franconian derivative of German – and, yes, there is a Luxembourg-based broadcaster), German and French as well as English. He also speaks Italian, "but not good enough to do an interview – perhaps I should do a course in Spanish now...!" ▶





MARSHALLING THE TEAM

Getting the car out on track and maximising its potential during the race is the team principal's priority during the grand prix weekend, and that demands attention to detail as well as the capacity to delegate. Here they take the role of captain, ensuring everyone in the team performs at their highest level, but without micromanaging them.

Behind closed doors, the team principal will sit in on all the post-session debriefs and take part in the race simulations which determine the most likely strategic scenarios on Sunday. If there are development components on the car – in Hungary, Aston Martin brought a new (and controversial) rear wing featuring an apostrophe-shaped profile on each endplate – the team principal needs to build an understanding of how well they're working, and whether they fulfil the benchmarks laid down during all those meetings back at the factory. That and having to field questions about them from reporters on the grid.


In the minutes before the race start, as the cars assemble on the grid, it's the team principal's job to ensure everything is ready to go. Krack lets the mechanics get on with the job (top) while he liaises with the likes of performance director Tom McCullough and head of trackside engineering Bradley Joyce. It's not always a case of being hands-off: sometimes there are difficult decisions to make, such as in Miami where Aston's fuel was too cool (it has to be within 10°C of the ambient temperature as declared by the FIA) so both cars ended up having to start from the pitlane.



ON THE PITWALL

The majority of team principals take a seat on the pitwall, a notable exception being Mercedes' Toto Wolff, who generally operates from the garage. When the cars are on track, teams generally communicate with the drivers solely via their race engineers, to avoid distractions and people speaking over one another. The team principal is essentially watching and listening, ensuring everyone sticks to plan; that's why many of the pay-TV stations are able to dial in and interview TPs during the race, because the engineers and strategists are calling the shots. If the crew gets it wrong, then of course it's the team principal's job to analyse what happened and prevent any repetitions.

The TP can and will communicate with the engineers via the radio during the race, and will often speak to the drivers to congratulate or commiserate on the cool-down lap. Some drivers thrive on having some attention from the boss and may request in-race comms, but generally the TP will only speak to them if a team order is being disobeyed and a commandment from above is required. Orders require delicate management, especially if they arise because of how strategy is playing out: in France, Sebastian Vettel and Lance Stroll nearly collided at the final corner, and in Hungary Stroll had to wave Vettel by and yield 10th place because his soft tyres weren't working as well as Vettel's mediums.

Since modern team principals are employees rather than owners, they often have their own bosses present: for Krack that means team owner Lawrence Stroll, who prefers to keep a low profile and watch the action from his own station in the garage. Aston Martin CEO Martin Whitmarsh rarely attends races. 







WHEN THE WHEELS COME OFF

Heavier wheels and new rules have made pitstops an even more challenging art to master. But this is Formula 1, so the sharpest teams will always find a few tricks...

WORDS LUKE SMITH

PICTURES



“Box this lap, box this lap, please confirm.”

After a reply “box this lap, confirm” and a brief squeeze of acceleration coming out of the right-hand corner which forms the Hungaroring’s pit entry, Daniel Ricciardo hits the brakes and downshifts before thumbing the pit limiter button on his steering wheel, bringing his speed down to a steady 80km/h.

Decked out in orange suits and powder-blue helmets, the McLaren crew awaits in precise positions, hoping their accuracy is reciprocated. Luckily, Ricciardo is no stranger to this. Using the marker board on his left as a guide, he slows and swings the McLaren MCL36 right before pivoting back left into the outlined pit box, grazing the yellow arrow above the front jack with the tip of the car’s nose.

The 21-strong crew know their jobs. Three are on each corner of the car (wheel on, wheel off and the gun ▶



Pit equipment like wheel guns (below, right) has evolved over many years. The bigger and heavier wheels (below, left) have set teams a new challenge



man); two each end (the jackman and a spare), two steady the car and two are in place for any front-wing adjustments or to clear debris; and one stands to make sure the pitlane is clear to avoid any unsafe release.

The stop goes by without a hitch. 2.26s later, Ricciardo has a fresh set of medium tyres and is back on his way. In the time it takes Usain Bolt to run 100m, they could complete the same turnaround four times. It may not be the fastest stop of the race – Red Bull goes 0.07s faster serving Sergio Pérez with the quickest stop of the season so far – but it's another successful operation from one of F1's slickest pit crews.

Pitstops have been a key point of attention for McLaren in recent years. During his tenure as team principal, Andreas Seidl has emphasised the importance of operational skills and helped establish McLaren as one of the crews to beat.

"It takes time to get on top of the challenge of a pitstop in F1," he says. "It obviously involves the crew, but also the equipment like the wheel guns for doing the stops, and a lot of the car hardware like the hubs, nuts, brake ducts, and so on. We invested a lot of energy, especially over the winter, in order to work on all these areas to get to a place to be competitive and as quick as the best."

The work has paid off. McLaren can currently claim to be the second-quickest team in the pits as per the standings supplied by DHL, F1's logistics supplier, which sponsors an award for the fastest stops over a season. Only Red Bull has been quicker than McLaren on more occasions.

Back in the days of refuelling, pitstop length was dictated by the amount of fuel that went

in and the speed with which the rig could be attached and then disengaged. If there was a fumble getting a wheel on or off, it mattered little given the fuel rig would be taking between seven and 10 seconds to deliver its payload. But the ban on refuelling meant tyre changes became a key differentiator between teams, and a technological and human performance arms race ensued.

Teams went to remarkable lengths to chase sub-2s stops, sending mechanics to boot camps, designing specialist equipment, and evolving

new procedures. Red Bull set the record at Interlagos in 2019 when it turned Max Verstappen's car around in just 1.82s. Adding together its fastest four corners ever recorded during practice at the factory, Red Bull reckons a 1.4s stop was possible...

It was a process which took thousands of hours

Like all teams Red Bull, holder of the fastest pitstop record of 1.82s, has seen its stops slow to around 2.5s



IT'S NOT JUST THE DRIVERS WHO ARE ULTRA-COMPETITIVE: PITCREWS TAKE PRIDE IN THEIR WORK AND ARE DETERMINED TO BEAT ONE ANOTHER. BUT WHAT UNDERPINS THE SPEED ISN'T ENTHUSIASM AND COMPETITIVENESS, IT'S PROCESS

of training to refine, all in pursuit of mere tenths and thousandths of a second. Many of those gains have now been erased. The overhaul of F1's regulations for 2022 made the cars heavier, part of which is a result of the move to 18-inch wheels. Each rim is around 3kg heavier due to the greater amount of metal, plus the new (mandatory) wheel covers, making them even more cumbersome to move during stops. The return of ground-effect aerodynamics has also enforced some changes, since cars now run lower to the ground.

"We had to review our jack designs to ensure we could lift to the correct height, especially on the rear," says Charlie Hooper, McLaren's director of car operations and engineering, tasked with overseeing the crew each time it springs into action. "If you just used the old jack, it would be very difficult to lift and would be very high off the ground. We had to ensure that the car weight – to the jackmen – felt the same and manageable."

This has contributed to the stops slowing down to around 2.5s, but it's not the only factor. During last season the FIA launched a clampdown to remove automated systems such as sensors used to confirm a wheel had been attached properly; it was feared such systems were being used to shortcut stops at the cost of safety. When pitstops go wrong, people can get hurt: when Kimi Räikkönen's Ferrari was released prematurely during the 2018 Bahrain GP, the car clipped mechanic Francesco Cigarini, who was left with a double leg fracture; at the Nürburgring in 2013 an unsuspecting FOM cameraman was hospitalised by the right-rear wheel of Mark Webber's Red Bull, which detached as Webber left the box.

One of the main motivations for the FIA stepping in last year was the suspicion some teams were trying to game the system through these automated sensors – that the systems were being used to *anticipate* when each wheel was tightened and give the 'go' signal fractionally early. Seidl says the clampdown "finally ensured that everyone was playing to the same regulations", even if it removed the sub-2s stops some found so impressive.

Teams now prioritise consistency rather than chasing peak speeds, yet the changes to the cars have made mistakes more frequent. Even a well-drilled operation like McLaren has slipped up at times, notably with Ricciardo in Canada as McLaren tried to double-stack its cars and a crew member arrived late. More startling was Lando Norris's car being dropped when the rear jack failed in practice at Silverstone.

"The impact on consistency this year has been

the biggest change across the whole grid," says Hooper. "Even the best teams have seen some very slow stops this year. While the headline speed is what we see, the actual biggest impact on strategy is the inconsistency. A lot of this comes around from the heavier wheels and tyres, but also the change in geometry of the common drum design across the grid. Speeds will increase, but it will be difficult to achieve the ultimate pace seen in the old set of regulations, along with the FIA ensuring correctly that we have safe stops."

The key to finding this consistency may be practice, practice, practice. But Andrew Shovlin, trackside engineering director at Mercedes, says that tighter limits on curfews this year actually make it harder to find time to rehearse pitstops.

"Getting the cars together is a priority," he explains. "One of the big issues was actually getting all of that work into the weekend, and one of the first things to drop is pitstop practice. It's an area we're working on. It's not the thing that's holding us back at the moment – that's the car – but it's always a parallel project."

While we may be unlikely to see pitstops dip below two seconds in the near future, there are still other areas of technological exploration. Alpine sporting director Alan Permane reveals


McLaren invested a lot of effort over the winter to improve pitstops, including redesigning the car jacks

teams are looking at electric pit gun technology "for all sorts of reasons: for eco reasons, for savings on freight, and just moving forward." He adds: "I think we're a little way away on that, honestly, to retain the same performance that we have now. But essentially, what we have now is what we had last year with a bigger wheel."

While the 2s barrier may never be breached again, this doesn't mean teams put less energy or focus into making stops quick.

"It's a sub-competition in its own right really," says AlphaTauri technical director Jody Egginton. "It's motivation. If you don't deliver good stops, if the guys can't deliver the race stops they do in practice, it upsets them. It's another outlet for the competitiveness we all show."

It's not just the drivers who are ultra-competitive: pitcrews take pride in their work and are determined to beat one another. But what underpins the speed isn't enthusiasm and competitiveness, it's process. For Hooper, there are "no big secrets" that have made his McLaren crew one of the best in the business.

"It's about being open and honest with the crew in reviewing, focusing on our weaknesses and understanding how and where to improve," he says. "We focus on constant technical improvements using the crew feedback for both performance and consistency, balancing injuries versus practice quantity, and ensuring the crew is in the best shape possible come Sunday." 



MIKE ELLIOTT

After eight consecutive constructors' titles, Mercedes found itself in a dramatically altered position in 2022. Technical director Mike Elliott explains how the team is proud of the way it's been able to develop a troublesome car – and how there's still plenty to learn through looking at what other teams are doing...

How different has the mindset been this year – playing catch-up after so many seasons leading?

From a mindset point of view, it's challenging because as a team we've not been there. On the flip side, once you strip away the pressure and the disappointment, it's actually quite a good thing. It's a new challenge. It's a way the team can be stretched. And if we can get ourselves through this and we can start catching up that gap to the front, then I think we can feel a sense of pride in getting on top of the issues and then trying to move ourselves forward.

Mercedes isn't a team to play the blame game, but what was the reaction of you and your staff?

From me and my team, there isn't a blame game. If you look at what we faced, the aerodynamic phenomenon [bouncing] was very difficult to predict. And a lot of the teams came out and said that they couldn't predict it either. The advantage of having won the last eight championships is that you have some self-confidence that you've got the people around you to be able to go and turn this around. I don't think it was any sort of sense of despondency or despair.

How have you found the first major car development process in the cost-cap era so far?

Engineering is all about constraints. It's about balancing those constraints and working out how you optimise. There was always a trade that was cost-related because there's always going to be a level of costs that you're not willing to take for an amount of performance. If you could find 0.1s and it's going to cost \$1billion you're not going to do it. So, the position we find ourselves in is just a tightening of that constraint. And it means it's

much more at the forefront in the minds of the engineers. But it's not fundamentally different to what we've done in the past.

But was the constraint tightening why Mercedes did lots of set-up experiments early on with the W13 rather than producing regular new parts and seeing if they would work?

The issues with the bouncing this year has meant that all the teams have had to make better use of their track information. [Plus] work out how they correlate the new tools they had to develop to deal with the bouncing and make sure that what comes from the factory is going to work at the track. That's taken a different approach – presumably for all the teams, but it definitely changed the approach we've had to take this year. The cost cap has inevitably had a consequence because you can't just afford to throw everything you'd want to throw at it. You've got to carefully make decisions about how you best gather information from the track, build your understanding and turn that into gains moving forwards.

How much car design convergence has Formula 1 really seen across the grid?

It's difficult to know. People look at the visual

differences on the cars and think that's where it's all at. And, generally speaking, particularly for the aerodynamics, most of the performance is in the floor design and to a lesser extent in the wings. The bodywork is a smaller effect. You can see there are a couple of themes in the floor designs that look quite different. And it hasn't settled down to one thing.

Some teams have changed car concept already – is that a surprise within the cost-cap constraints?

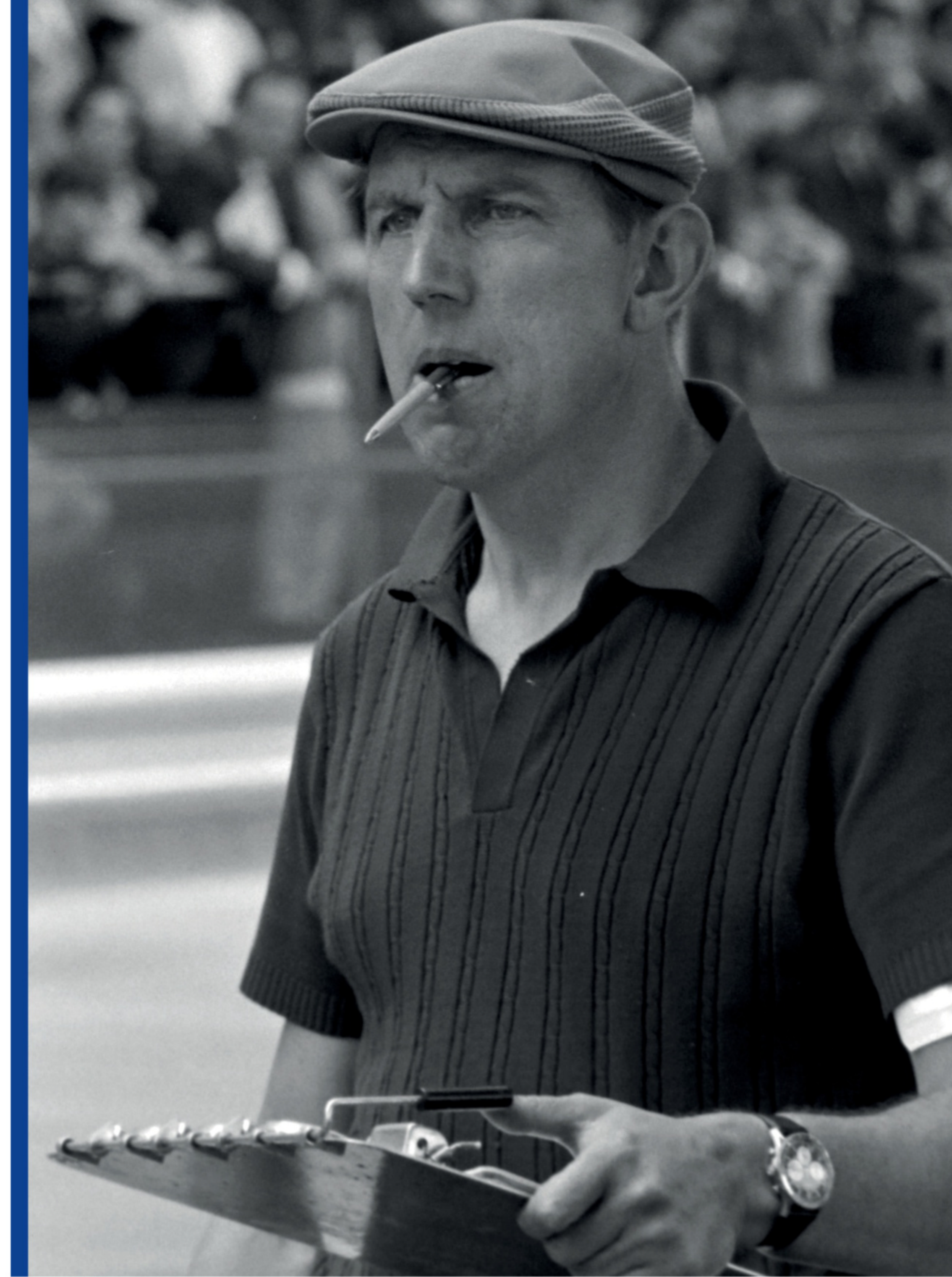
I guess in the case of Aston Martin, this isn't the first time they've kind of looked at a car and decided to take a wholesale concept change to what somebody else has got. If they felt they were a chunk behind and felt they needed to reset, then I could understand why they've done that. But you always look at what everybody else is doing. It doesn't matter where you are on the grid, if you've got an amount of humility you've got to realise that there's lots of very good people at all of the teams, all trying to push the cars forward. And so, you look to see what they're doing.

There's still lots of different-looking cars – are they likely to stay that way?

Within any rule set there's convergence over time – that's just normal. The interesting thing is when you look at the bodywork differences, I think they're probably all trying to achieve the same thing. They're just trying to do it slightly differently. The big differences in performance are not coming from the visual differences that have been seen in the pitlane. So, while one might be better than another by a few points, it's not the game-changer that's completely changing the grid.

**YOU ALWAYS LOOK AT WHAT
EVERYBODY ELSE IS DOING.
IT DOESN'T MATTER WHERE
YOU ARE ON THE GRID**





KEN'S THE HISTORY OF TYRRELL NEW PART 1: 1951-67 GOAL

The young **Ken Tyrrell** was barely aware of motor racing – until a trip with his village football team to the British Grand Prix set him on the road to becoming a Formula 1 constructor...

At the start of the 1950s Ken Tyrrell knew little of Formula 1. By the end of the following decade he was embedded in it

WORDS MAURICE HAMILTON PICTURES  **motorsport**
IMAGES
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A

s a keen and robust sportsman, 27-year-old Ken Tyrrell knew everything about cricket and football, but nothing about motor racing. His heroes were Stanley Matthews and Tom Finney (leading goalscorers for England), along with Len Hutton and Colin Cowdrey, prolific batsmen for the national team. Juan Manuel Fangio and Giuseppe ‘Nino’ Farina meant little, not because they were ‘foreign’ in the eyes of this intensely patriotic Englishman, but because they were

champions of a sport in which Tyrrell felt he could not possibly participate, never mind understand.

When he joined his village football team on a trip to the 1951 British GP, the only connection was that Silverstone, as a former World War II aerodrome, bore similarities to those on which Flight Sergeant Robert Kenneth Tyrrell had served his country as an engineer with the Royal Air Force. Other than that, this would be a bit of a laugh; a fun day out.

The view from Ken’s grandstand at Stowe might have presented the familiar sight of runways and aircraft dispersal areas but Tyrrell was immediately captivated by the spectacle of F1 cars rushing headlong towards him on Hangar Straight. He might have been about to witness a piece of history as José Froilán González scored the first-ever win for Ferrari in a round of the world championship, but it was to be a significant event in more ways than Ken could ever have imagined. His day at the races would trigger a chain of events leading to this cricket fan knocking Ferrari for six with championship-winning cars built and run from a woodyard in Surrey.

Ken and his brother Bert were timber merchants by trade. It was a flourishing business in the post-war coal mining boom when pit props were urgently needed, and wood was in short supply. They operated from a former brickworks not far from Guildford – the home town, Ken had noted, of Alan Brown, a driver in a support event at the British GP. Brown had been racing a Cooper-Norton in the 500cc race, a category made popular by its comparative cheapness and simplicity: a motorcycle engine – plentiful

A trip to the 1951 British GP (below), won by José Froilán González (right), piqued Tyrrell’s interest in motor racing

at the time – dropped into the back of a spaceframe chassis with independent suspension converted from a Fiat 500 saloon. Intrigued by the thought of competing in one of these little machines, Tyrrell tackled the challenge head on by calling unannounced on Brown and offering £500 for his Cooper. Brown accepted. Tyrrell had become a racing driver.

The name R. K. Tyrrell initially appeared in race reports as either an also-ran or a retirement before becoming an occasional leading contender in the heavily subscribed events – and eventually winning his first race in Scotland in April 1953. Two years later, Autosport carried the headline ‘KEN TYRRELL WINS’ above the report of victory at Karlskoga in Sweden. It would be his only moment of international fame as a racing driver. Despite a test drive with the works Aston Martin sportscar team and various outings in F2 cars owned by Brown, 34-year-old Tyrrell concluded in 1958 that time and talent were against him. Running a team seemed a more suitable option than driving for one.

Tyrrell went into partnership with Brown and Cecil Libowitz, the owner of a local engineering





Tyrrell (above, far right of picture) at the 1959 Italian GP. By 1960 success was beginning to come with Henry Taylor (below) in Formula Junior



After seeing local man Alan Brown competing at Silverstone, Ken bought his 500cc Cooper-Norton to start his own racing career



firm. The consortium operated out of a lock-up in Guildford, from where Ken would run an F2 and a Formula Junior Cooper. It didn't take long for Tyrrell to go out on his own, the timberyard in the woods at Ockham being his only option as a base for a team of two mechanics, with administrative support from Ken's wife, Norah. When he heard about a local army base decommissioning wooden huts to make way for more permanent structures, Ken made an offer (believed to be £25) for one

and had his lads – with the help of an engineer neighbour – do the necessary dismantling and rebuilding in the woodyard. Little did they know, this most humble of working environments would eventually become world famous as the unlikely birthplace of highly successful F1 cars.

Ken quickly made a name for himself as a provider of well-prepared race cars, with the emphasis on good management characterised by the choice of 'Tyrrell Racing Organisation' as the

no-nonsense title for his team. Working closely with Cooper Cars, Tyrrell would frequently claim one-two finishes in Formula Junior races as the little team travelled week-in, week-out to places as far-flung as Roskilde and Rouen, Montlhéry and Monza. The hand-to-mouth existence depended heavily on prize money; Tyrrell received his best pay day at Monaco in 1960 when Henry Taylor won the Formula Junior race. Taylor went on to finish fourth in the French Grand Prix for a team ▶



Tyrrell with works Cooper driver Bruce McLaren at the 1962 Italian GP, where Ken would continue to learn about F1

of privately entered Coopers.

Racing for Tyrrell was receiving recognition as a stepping stone, particularly when Ken also gave drives to John Surtees, Denny Hulme, Tony Maggs and John Love, all of whom were destined for F1, albeit with varying degrees of success. Love would make his mark in South Africa, but not before the rugged Rhodesian had won the 1962 British Saloon Car Championship at the wheel of a Mini Cooper run by Tyrrell.

Touring cars had been an unusual diversion for Ken since, in truth, his interest lay with single-seaters. Tyrrell therefore knew nothing about Jackie Stewart, a 23-year-old Scotsman who was quick enough in local races to earn a drive with Ecurie Ecosse, the Edinburgh-based team which was regarded as the *crème de la crème* of world class sports car racing. Stewart had no ambition to go beyond competing in E-Type Jaguars and chunky Ferrari GTOs, but a weekend at Goodwood in late 1963 would change everything.

Stewart put his Ecurie Ecosse Cooper on pole position. Despite spinning and finishing second, he did enough with his smooth, quick style to impress observers, among them Robin McKay, Goodwood's track manager. McKay knew Tyrrell very well and was aware Ken was looking for someone to race in Formula 3 (which was about to supersede Formula Junior for 1964). He urged

A REQUEST FOR ADVICE FROM HIS FRIEND JIM CLARK NOT ONLY SORTED STEWART'S PRIORITIES BUT ALSO PROVIDED A RINGING ENDORSEMENT OF KEN TYRRELL

Tyrrell to give Stewart a test at Goodwood.

Flattered by the offer, Jackie was nevertheless in a quandary since he had no wish to race single-seaters. A request for advice from his friend Jim Clark not only sorted Stewart's priorities but also provided a ringing endorsement of Ken Tyrrell. The newly crowned F1 world champion told Stewart that single-seaters were the way forward for an aspiring driver and there was no one better than Tyrrell to guide Jackie along that path.

First, though, Stewart had to get himself to Goodwood, a 500-mile journey he completed on his own, blissfully unaware of what was waiting. Having never driven a single-seater before, Jackie thought this was a trial to see how he got on, as you would when taking a demonstrator for a run

from a car showroom. In his naivety, he failed to spot the clues as John Cooper was present and Bruce McLaren, who also 'just happened to be passing', was kind enough to do a couple of laps to make sure everything was in order with the Cooper and its BMC one-litre engine.

In fact, the winner of three grands prix was there to set a benchmark. Stewart, with no apparent effort, soon got below McLaren's time without knowing it. When Bruce took over 'just to check things out' and reset the target, Jackie, without an ally in the pits, continued to be unaware of how onlookers were staring at their stopwatches with a mix of admiration and disbelief as this chirpy little Scotsman went quicker still.



Names that would become synonymous. Jackie Stewart's journey to F1 started in British F3 (left) with Tyrrell (above)



John Cooper, watching from the first corner, couldn't get back to the pits fast enough to tell Tyrrell: "Get that boy signed up quick!" In later years, when credited with being a talent spotter, Ken would respond with typical directness: "On that day, if you couldn't see Jackie was a future champion, then you were a bloody idiot."

Tyrrell was no fool. But neither was Stewart.

When Ken – on the same day – offered Jackie a £10,000 retainer, with a proviso that he signed a contract giving Tyrrell 10 per cent of his income over a period of at least five years, Stewart chose the option of a £5 retainer plus 50 per cent of the prize and bonus money on the basis that Tyrrell wasn't offering £10,000 (a massive amount in 1964) out of the goodness of his heart. Stewart: "I was beginning to understand there had to be more money in this game than I had ever realised!" It was to be a mutually beneficial arrangement.

In pouring rain, Stewart walked the first round of the 1964 F3 series and went on to win 11 of the next 13 races, which took care of the British F3 Championship. Stewart also caught international attention by defeating the best from Europe during the prestigious Monaco GP weekend.

One way or another, Stewart had done more than enough to prove he was worthy of F1. Colin Chapman was quick off the mark by offering a drive with Lotus in a non-championship grand prix at Kyalami in December 1964. Pole position in South Africa for one heat (in which the Lotus-Climax 33 failed) followed by victory and fastest lap in the other would earn Jackie a full-time Formula 1 drive with BRM for 1965. Meanwhile, he would continue to race with Tyrrell, Ken having stepped up to F2. Unfortunately, the ▶

F2 Cooper and its BRM engine only served to disappoint. With just one second to Tyrrell's credit in 1965, and little of consequence to shout about in F3, Ken was reluctant to attend the FIA prizegiving in December. As things would turn out, going to Paris would prove to be one of the most fortuitous decisions in his business career.

Tyrrell was introduced to Jean-Luc Lagardère, the general manager of Matra Sports. Neither name meant anything to Ken who, in truth, was keen to make his excuses and catch a flight home. But Lagardère knew all about Tyrrell and needed to make his acquaintance.

Matra, a major aerospace and missile manufacturer, had become involved in the motor industry almost by default. Lagardère found himself responsible for the Matra Djet (a smart little road-going coupe) and quickly realised the value of image should Matra become involved in motorsport. Its first racing car might have been for F3, a comparatively minor class, but Matra knew only one way to build it.

Ken with Jacky Ickx in 1967. Tyrrell ran Ickx and Stewart in the European F2 Championship in 1966 and 1967, using Matra chassis

KEN, MORE THROUGH POLITENESS THAN OPPORTUNISM, AGREED TO RETURN AND VISIT THE MATRA FACTORY ON THE OUTSKIRTS OF PARIS

When aerospace construction was incorporated in the chassis, the effect on performance was profound. By lining the box sections on either side of the cockpit with polymer resin, this provided



Stewart, and Tyrrell, gained international recognition when Stewart won the prestigious F3 support race at the 1964 Monaco GP

a seal that did away with the need for rubber bag tanks and, more importantly, allowed the use of bulkheads to provide additional strength inside the box-sections. As a result, the chassis had massive structural rigidity and precise handling.

The Matra F3 car had won a few races. Now Lagardère wanted to step up to F2, but he needed a team with experience – and a star driver. Tyrrell fitted the bill on every count. In his haste to leave Ken, more through politeness than opportunism, agreed to return and visit the Matra factory on the outskirts of Paris. What he found there impressed Tyrrell enough to have a BRM F2 engine and gearbox dispatched to Paris, with one of his mechanics on hand to assist with installation. The next step was to get Stewart behind the wheel of a Matra.

Stewart initially didn't want to know but his misgivings began to be eroded when Matra used a Bristol freighter to fly an F3 car into Gatwick ("a helluva big deal in the mid-sixties," recalled Stewart). Any remaining uncertainty was banished within a few laps of Goodwood. Stewart described the handling as "sensational".

A deal was done to run two Matra-BRMs for Stewart and Jacky Ickx in the 1966 European F2 Championship. The BRM engine might have been blown away by the Honda units run by Jack Brabham in his own cars, but a step up from 1000cc to 1600cc for F2 engines in 1967 ruled out the Honda and made the Ford BDA the power unit of choice. Even though beaten by the extrovert genius of Jochen Rindt in an F2 Brabham, the Matra MS7 (MS standing for 'Matra Sports') was a neat and effective machine, particularly on the twists and turns of the Nürburgring Nordschleife, which Ickx adored.

When the organisers of the 1967 German GP accepted F2 cars to bolster the field on the 14-mile track (as they had done in 1966), Tyrrell again had no hesitation in entering Ickx. The young Belgian put several F1 noses (including Stewart in his BRM) out of joint when he recorded an astonishing time which would have been good enough for a place in the middle of the four-car front row had F2 entries not been forced to start from the back. Undaunted, Ickx ►





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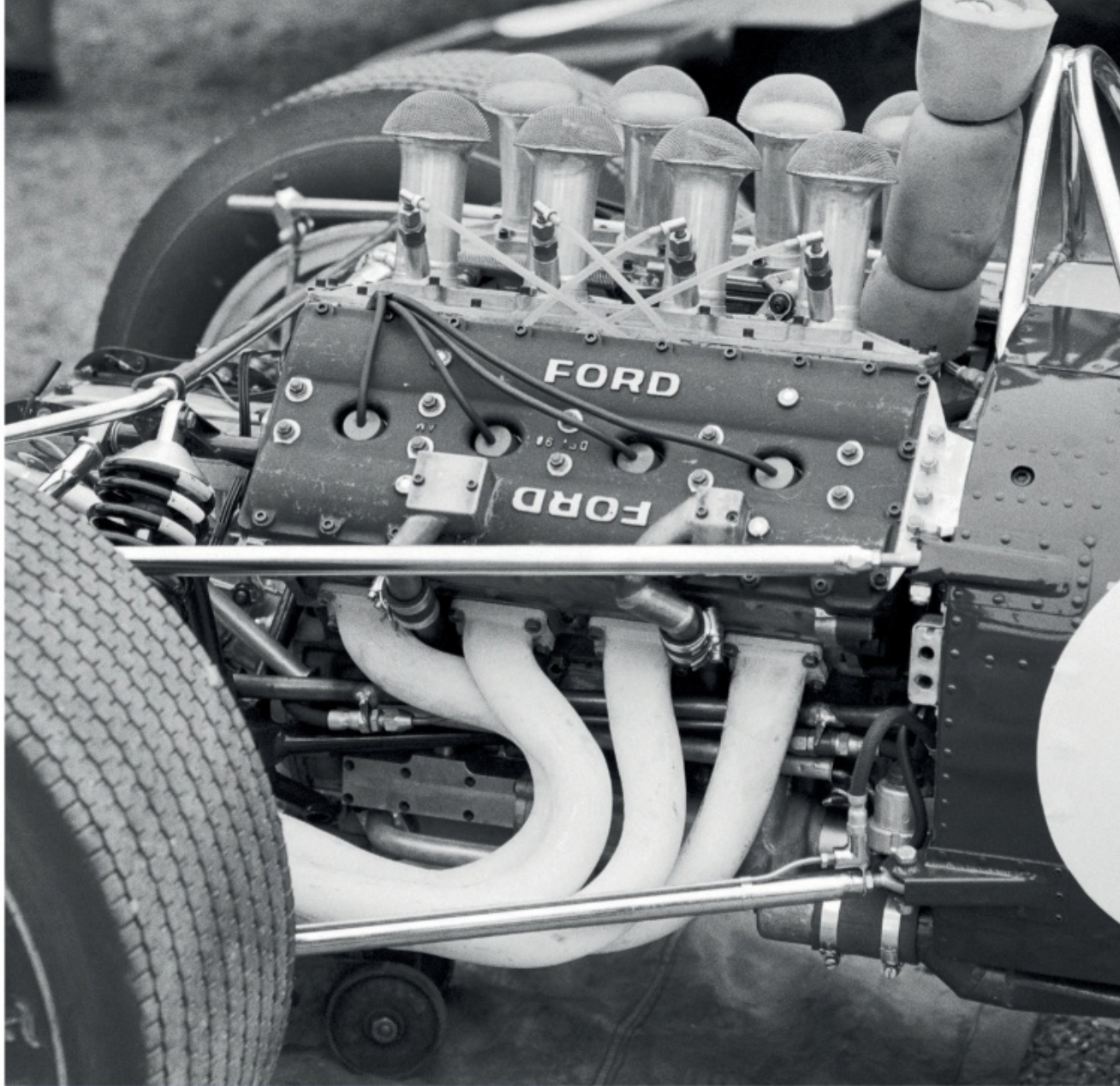
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continued to fly – literally, on many of the flat-out crests – and worked his way up to fourth place before the suspension eventually gave in to the crash-landings and the extra ballast foisted on the F2 cars to help F1 save face.

“That performance was absolutely fantastic,” enthused Tyrrell as he relished briefly being a member of the F1 circus. It was a timely intervention in more ways than one.

A change in F1 engine formula for 1966 had yielded the so-called ‘Return to Power’ thanks to a step up from 1.5 to 3 litres. Engines had initially come from a hotch-potch of existing power plants, and Brabham’s team won the 1966 and 1967 titles with Repco units based on an Oldsmobile V8. An engine designed specifically for the new era didn’t appear until the Dutch GP, early in the 1967 season. Tyrrell travelled to




After going to Zandvoort to see the debut of the Ford-Cosworth DFV engine, Tyrrell decided he wanted two, and so his move into F1 began



Ickx (above) stunned the F1 fraternity at the 1967 German GP when, in a Tyrrell-run Matra F2 car (left), he set the third-quickest time

Zandvoort to see the debut of the Ford-Cosworth DFV in the back of a Lotus 49. Despite the completely new combination having done almost no testing, Clark had won with ease. Tyrrell could see the direction of F1’s future, and instinctively wanted to be a part of it.

Immediately on his return to Ockham, Tyrrell sent a telegram to Cosworth, ordering two DFV V8s. He had no money, the engines were valued at £7,500 each (and weren’t for sale in any case), but this was of no consequence at that particular moment. Ken had instigated a move into F1.

Attempting to secure a supply of engines was just the start. He would also need a car and a driver. An impossible ambition? The timing would prove to be perfect on every count. 

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A first podium finisher
for a team eager to
become a winner



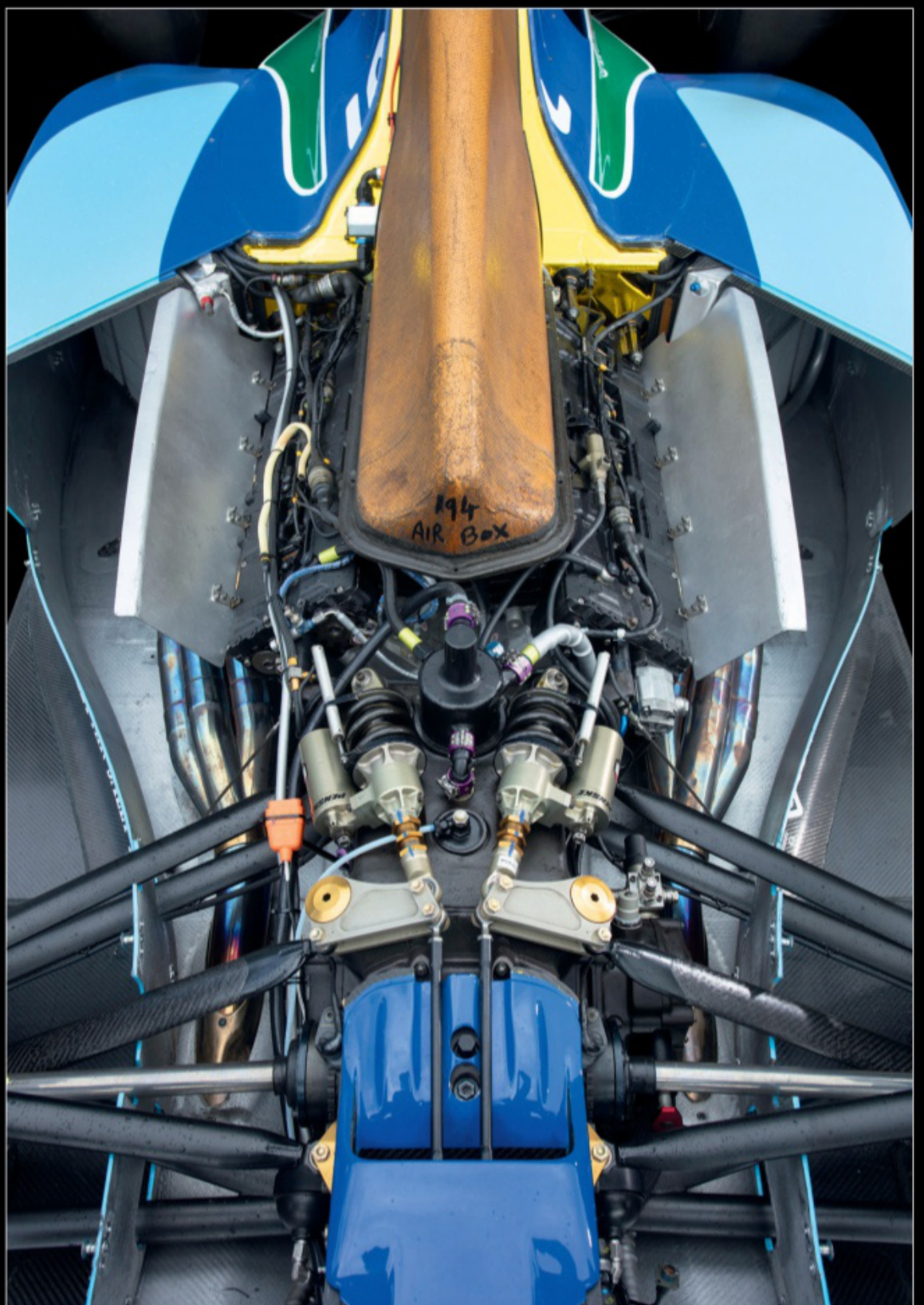


After a brilliant, giant-killing maiden season in Formula 1, Eddie Jordan's eponymous team slipped to the tail of the field and survived several brushes with bankruptcy. Gary Anderson and his tight-knit group of talented engineers hadn't forgotten how to design a competitive car and the svelte, agile Jordan 191 hadn't been a fluke – but Formula 1 technology was rocketing away from Jordan's meagre financial means. 1994 would provide a turnaround of sorts.

This was the benighted season in which the late Max Mosley's FIA strove to rid F1 of the electronic systems which had elevated car speeds to potentially dangerous levels and dialled driver skills down in the performance mix. Among the measures was a sentence which remains in the rulebook to this day: "The driver must drive the car alone and unaided."

There was an unintended – and worrying – consequence of banning traction control and launch control, and particularly active suspension systems. The majority of the leading teams were well down aerodynamic development paths which relied upon the stable platform granted by active suspension. Shorn of these they produced less consistent downforce and were inherently less predictable to drive.

This is not to imply a clear cause-effect relationship between the rule change and the accidents, two fatal, which scarred that year. In his autobiography Mosley, with typical



**FOR THE 194 ANDERSON
LENGTHENED THE WHEELBASE
BY 145MM AND PERSUADED
HART TO LOWER AND
LIGHTEN THE V10**

patrician hauteur, pooh-poohed this notion as “a classic post hoc point” and “an intensely stupid inference”. But the change *did* expose cars with pitch-sensitive aero and several drivers (Ayrton Senna included) *did* complain about their edgier behaviour. Teams such as Jordan, which hadn’t the funds to invest in sophisticated electronic systems during the arms race of the early 1990s – it used off-the-shelf Lucas traction control in ’93 – were less affected by the change.

For Eddie Jordan, one of F1’s pre-eminent duckers and divers, simply getting cars to the grid had been an achievement from his team’s first season onwards. He’d struggled to pay the Cosworth engine bills – although a suitcase full of Mercedes cash for giving Michael Schumacher his debut helped with that – but a necessary move to free Yamaha V12 engines for 1992 caused long-term pain. The car had to be physically longer to accommodate the larger engine, both reliability and power were poor (driver Stefano Modena likened the Yamaha to a sewing machine), and the lack of results meant less income via the team’s share of commercial revenues.

The ‘free’ engine therefore proved very costly. At the 1992 San Marino Grand Prix – race five – where Modena qualified 23rd out of 30 and team-mate Mauricio Gugelmin 18th, Anderson had a useful encounter with an old acquaintance over a glass of wine. Brian Hart, an engine builder with a Jordan-like reputation for making scant resources go a long way, was incubating a new project. Much of his business in recent years had come from supplying customers with tuned Cosworth DFRs, a line of work which

JORDON 194

NOW
THAT
WAS
A
CAR

No.112

had declined when the HB V8 came on stream. Now he’d built a 3.5-litre V10 of his own design, but which now required a customer for Hart to progress to the manufacturing and onward development stages.

Anderson and Jordan visited Hart Racing Engines in Harlow, liked what they saw, and did a deal. Given Jordan’s financial status, the funds available barely stretched to a production run. Hart had to slim down his company to make the programme – just about – viable. Despite a revolving cast of paying drivers in the second car, a chassis built up from the ’92 tub, and little testing, the 1993 Jordan-Hart 193 ran more competitively and notched up two points finishes as opposed to one... and just a single DNQ (Ivan Capelli’s career-ending failure to make the grid in Brazil) compared with four in 1992.

New recruit Rubens Barrichello, who had beaten Williams test driver David Coulthard to the 1991 British Formula 3 championship, had all the hallmarks of a future star. For the European Grand Prix at Donington he qualified 12th and was fourth at the end of a sodden opening lap, though unfortunately most eyes were on Senna’s heroics at the very front; Rubens was running third when his fuel pressure dropped off.

Besides various reliability issues, what held the 193 back was its tendency to overwork its tyres on race day. For the 194 Anderson lengthened the wheelbase by 145mm and persuaded Hart to lower and lighten the V10. As well as detail changes around the sidepods and engine cover, the car featured a noticeably different nose treatment from its predecessor, ▶



which had featured a flat main plane under a raised nose. The 194's swoopier twin-plane arrangement harked back to the first two Jordan F1 designs.

For the 1994 season Barrichello was partnered again with Eddie Irvine, who had joined the team for the previous season's Japanese Grand Prix – where he incurred the ire of Senna for having the cheek to unlap himself. Those who worked with Irvine tend to describe him as “a character”. The relationship with Barrichello, never warm, would become sporadically confrontational come season's end. These two individuals were close neither in temperament nor style:

Rubens was classically Jackie Stewart-like in his flowing style, but trying (unsuccessfully) to adapt to left-foot braking, which was becoming *de rigueur* in the semi-automatic gearbox era; Irvine was more reactive, happy to live with a stiffly sprung and edgy car if that's where he sensed the laptime was.

For Jordan this was a disrupted season from the off. While Barrichello finished fourth on home soil in the season opener, albeit a lap down, Irvine earned himself a one-race ban for his part in what became a four-car shunt at half distance. Benetton's Jos Verstappen pulled out to pass Irvine as they bore down on the Ligier of Eric Bernard: Irvine swerved left



to clear the Ligier as Verstappen was alongside, obliging Jos to react by moving further over; and then Bernard also moved left to avoid Martin Brundle's McLaren, which was slowing abruptly owing to an engine failure. This put Jos on the grass and tipped him into a spin which took out all three cars, and Brundle took a bang on the head from the Benetton's right-rear wheel.

There were several different inputs into this accident but Irvine was already cultivating a bad-boy reputation in the paddock after his altercation with Senna. Thus Eddie was made an example of and, when the team appealed, his ban was extended to three rounds. This was Mosley sending out

NOW THAT WAS A CAR

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AT THE PACIFIC GP WHICH FOLLOWED AGURI SUZUKI TOOK IRVINE'S SEAT AND RUBENS CLAIMED HIS FIRST PODIUM FROM EIGHTH ON THE GRID

a signal that he would not tolerate dissent in the ranks.

At the Pacific GP which followed Aguri Suzuki took Irvine's seat and Rubens claimed his first podium from eighth on the grid. This being two-tier F1, the gap to the two cars ahead was a full lap and Barrichello's cause was aided by Senna being taken out by Mika Häkkinen, but it was another encouraging result for Jordan. By now innuendo was circulating to the effect that some teams were still using either traction control or launch control, or both, but nothing had been proved.

Then came that bleak weekend at Imola where Roland Ratzenberger and Senna lost their lives and Barrichello struck the barriers in practice – hard enough to swallow his own tongue. Remarkably he was able to return to the cockpit in time for Monaco, where another severe accident – this time for Karl Wendlinger in a Sauber – brought yet more questions about F1's safety.

In the wake of Senna's death, Mosley had moved to slow cars down and install measures to make tracks safer. The first stage of these changes was implemented in Spain, where the cars had smaller diffusers and front-wing endplates. Later in the season engine power would be reduced by the rather crude method of cutting slots in the airbox and ride heights would be controlled by the addition of the underfloor plank which persists to this day.

At Barcelona Barrichello squandered a fifth-placed grid ►

JORDON 194





position by spinning off but the returning Irvine was sixth from 13th on the grid. The Jordan drivers continued to score points but in Hungary contrived to hit each other on the first lap after qualifying inside the top 10, losing the opportunity to register what could have been a double points finish.

A fortnight later the Belgian weather cycled through its usual menu of unpredictability at Spa. F1 qualifying was yet to be consolidated into a TV-friendly single session, instead being split over two sessions held on Friday and Saturday

with the grid decided by each driver's best overall time. On Friday the rain abated in the afternoon but the track was still too wet for slicks – or so the majority of teams believed. Anderson called his drivers in for slicks at the end of the session and Barrichello went fastest of all, Irvine fourth. A washout on Saturday meant nobody improved and Barrichello had registered his – and Jordan's – first F1 pole position. As talking points go it was a tremendous improvement on the temporary chicane which had been installed at Eau Rouge.

JORDAN SCORED POINTS IN ALL OF THE REMAINING ROUNDS, ENOUGH TO PLACE FIFTH IN THE CONSTRUCTORS' CHAMPIONSHIP





NOW THAT WAS A CAR


No.112



In dry weather on race day the Jordans struggled to cling on to the faster Williams and Benetton cars and Barrichello spun into the barrier at Pouhon before half distance. Irvine made it to lap 40 of 44 before his alternator failed. Jordan scored points in all of the remaining rounds, enough to place fifth in the constructors' championship and encourage Eddie Jordan to raise his expectations of what could be achieved. Especially since he'd already pulled off a deal he hoped would elevate his team to the top tier...

In October McLaren annulled its relationship with Peugeot three years early. Publicly it was presented as an amicable split based on different "long-term commercial objectives" which prompted both parties to "seek alternative arrangements which would be compatible with their strategic

plans". In truth it had become painfully obvious to McLaren boss Ron Dennis that Peugeot was never going to design a grand prix-winning engine; getting to the end of a race was rare enough. He swooped for Sauber's Mercedes-badged Ilmor engine supply instead. Jordan went to the altar with Peugeot, believing a manufacturer deal would bring greater investment and technical resources.

Enticing though that might have seemed, especially since another rule change was in the offing – a reduction in engine capacity to three litres – reliability continued to be poor. Three seasons of sporadic competitiveness, frequent engine blow-ups and mutual finger-pointing would ensue before Jordan changed supplier again, this time taking on the Mugen-Hondas which would finally propel the team to victory. 

RACE RECORD

Starts 32
Wins 0
Poles 1
Fastest laps 0
Podiums 1
Championship points 28

SPECIFICATION

Chassis Carbon fibre monocoque
Suspension Double wishbones with pushrod-actuated coil springs/dampers
Engine Normally aspirated Hart 1035 V10
Engine capacity 3499cc
Power 700bhp @ 13000 rpm
Gearbox Six-speed semi-automatic
Brakes Carbon discs front and rear
Tyres Goodyear
Weight 595kg
Notable drivers Eddie Irvine, Rubens Barrichello, Aguri Suzuki, Andrea de Cesaris



JORDON 194

MAURICE HAMILTON'S

ALTERNATIVE VIEW

Rules and the consistency with which they're applied are a point of friction between the drivers and governing body. Is there an argument for just letting the drivers do what they do best?

PICTURES  **motorsport**
IMAGES



WHATEVER HAPPENED TO F1 drivers being allowed to get on with what they do best? It seems every move has become regulated to the point where a measuring tape, protractor and overhead images of corners are needed to decide which driver has the right to exit ahead of the other.

There was a time when F1 racers were credited with enough common sense and spatial awareness to work out the difference between a move that was marginal – as they all ought to be, given the very definition of driving at the limit – and one that was downright dangerous. In the case of the latter, drivers proved capable of policing themselves – with the shameful exception of their kangaroo court wrongly accusing Riccardo Patrese of causing Ronnie Peterson's fatal accident at Monza in 1978.

Today, drivers race side-by-side into a corner steered subconsciously by a rule book that says a deft piece of positioning will place guilt on an innocent rival whose front wheels are now a millimetre on the wrong side of Art 56.7b, paragraph 10.7f, sub-section 97 (not allowing for Absolute Discretion, Force Majeure, drivers

moaning, a following wind and the guilty party once having said they were a fan of Nelson Piquet). Terms and Conditions seem to mean more than Talent and Commitment.

Talking to Nigel Mansell at Goodwood recently, I was reminded that the need to avoid the influence of officials is not new, Nigel having been involved in a controversial incident created by race control the start of the 1989 Canadian GP.

Rain throughout the morning in Montréal had

Mansell's Ferrari) and dive into the pits for slicks. The rules at the time were much as they are now; having made the tyre swap, Mansell and Nannini were required to go to the end of the pit lane and wait until a green light indicated that the race was under way and the last car had passed the pit exit.

Mansell arrived first. In the absence of either a red light or an official, Nigel assumed the race had started and continued accelerating. There was no pitlane speed limit in 1989. I had been watching from above this point and estimated Mansell was in third gear as he powered through the exit.

Seeing the approach of Nannini a few seconds later, someone switched on a flashing amber light. Assuming (correctly) this meant 're-join with caution', Alessandro paused briefly and then booted the Benetton-Ford.

Several seconds later the officials, standing on a gantry close by the pitlane exit, started the race. This was before Charlie Whiting assumed consistent command as race director. And the pitlane exit in 1989, unlike today, delivered cars onto the track mid-way through the fast first corner. Officials could have faced a catastrophe

I WAS REMINDED THAT THE NEED TO AVOID THE INFLUENCE OF OFFICIALS IS NOT NEW

prompted officials to declare a 'Wet Race' which, at the time, meant tyre choice was free. During the final parade lap (there were two, thanks to a stalled car on the grid), a stiff breeze was causing the track to dry in places. Alessandro Nannini joined Mansell in deciding it was worth sacrificing grid position (13th for Nannini's Benetton; 5th for



The start of the 1989 Canadian GP (above): Luis Pérez-Sala is about to enter the fray from the pits, but fellow pitlane starters Mansell and Nannini have already gone, thinking the race had started. Both were disqualified for an error by the officials, but for Nannini (below) this meant Benetton retiring a perfectly healthy car



if the start had coincided with either Mansell or Nannini suddenly shooting from the other side of the concrete wall at speeds in excess of 120 mph.


It seems fair to ask why neither driver failed to realise the race had yet to start. Next time you watch a grand prix, note how long it takes for the grid to form and the red lights to go out. It's much longer than you might think and, of course, Mansell and Nannini had lost all sense of time as they went through the drama of having their tyres switched. In which case, should team members on the pitwall have advised their respective drivers about the state of play on the starting grid? After the race, I put that question to Peter Collins, team manager at Benetton.

"We simply told Sandro to get down to the end of the pitlane," said Collins. "After that, we assumed the officials would take over and apply the rules. We were at the far end of the pits and couldn't see the exit. Sandro followed Nigel, saw him accelerate straight out and naturally assumed the race was on."

Mansell and Nannini were subsequently black-flagged and excluded. In Mansell's case, the disqualification was largely irrelevant since the Ferrari was about to retire with a mechanical failure. But, for Benetton, it was a disaster. With Johnny Herbert having failed to qualify, Nannini had been Benetton's sole representative in the race, but the penalty meant the team came away from Montréal with only the money earned from qualifying one car.

"Alessandro's car was perfectly healthy when he was forced to stop. Our potential race income was denied by the officials' incompetence," was Collins' blunt summary. Given Benetton's excellent reliability record, the inference was that Nannini could have been one of the few drivers left running at the end of a race in which intermittent but heavy rain caused havoc throughout.

Mansell and Nannini had contravened Article 127 of the Sporting Regulations which, at the time, precluded any competitor from leaving the pit lane less than 15 minutes before the start of the race. That's all very well but, in the absence of lights or officials and you think the grand prix might be under way, you're not going to hang around at the pit exit until someone turns up and says: "Oh, hello mate! Sorry, didn't see you there. Yep, it's okay. You can start if you like..."

Like I said, it's usually preferable to let F1 drivers get on with what they do best. 

THE FANS

They are often partisan, mostly wonderful and occasionally wild. Formula 1 just isn't the same without fans...

► When Lewis Hamilton won his fourth British GP at Silverstone in 2016 he decided he wanted to get as close as he could to his adoring fans. The Brit crowdsurfed again after his win in 2017 and this is the last time he did it, after his 2019 success







AUTOGRAPH HUNTERS

Shirts, programmes or photographs – the medium doesn't seem to matter, but fans are always keen for autographs and drivers are, on the whole, more than willing to scribble their names



*NATIONAL PASSION
Ferrari's Tifosi (right) and Max
Verstappen's Orange Army
(bottom) back their drivers
fervently, but but Japanese F1
fans set a high benchmark for
sheer creativity (middle)*



A VIEW TO A THRILL

There are some stunning places to watch Formula 1 from, although not all are necessarily available to the average spectator. One such venue is the rooftop of the Marina Bay Sands Hotel in Singapore (right), as are spaces above the pitlane at most circuits (below). Or there's Monaco (bottom), where pretty much anywhere is a fantastic vantage point to watch all the action unfold





DISGRUNTLED FANS

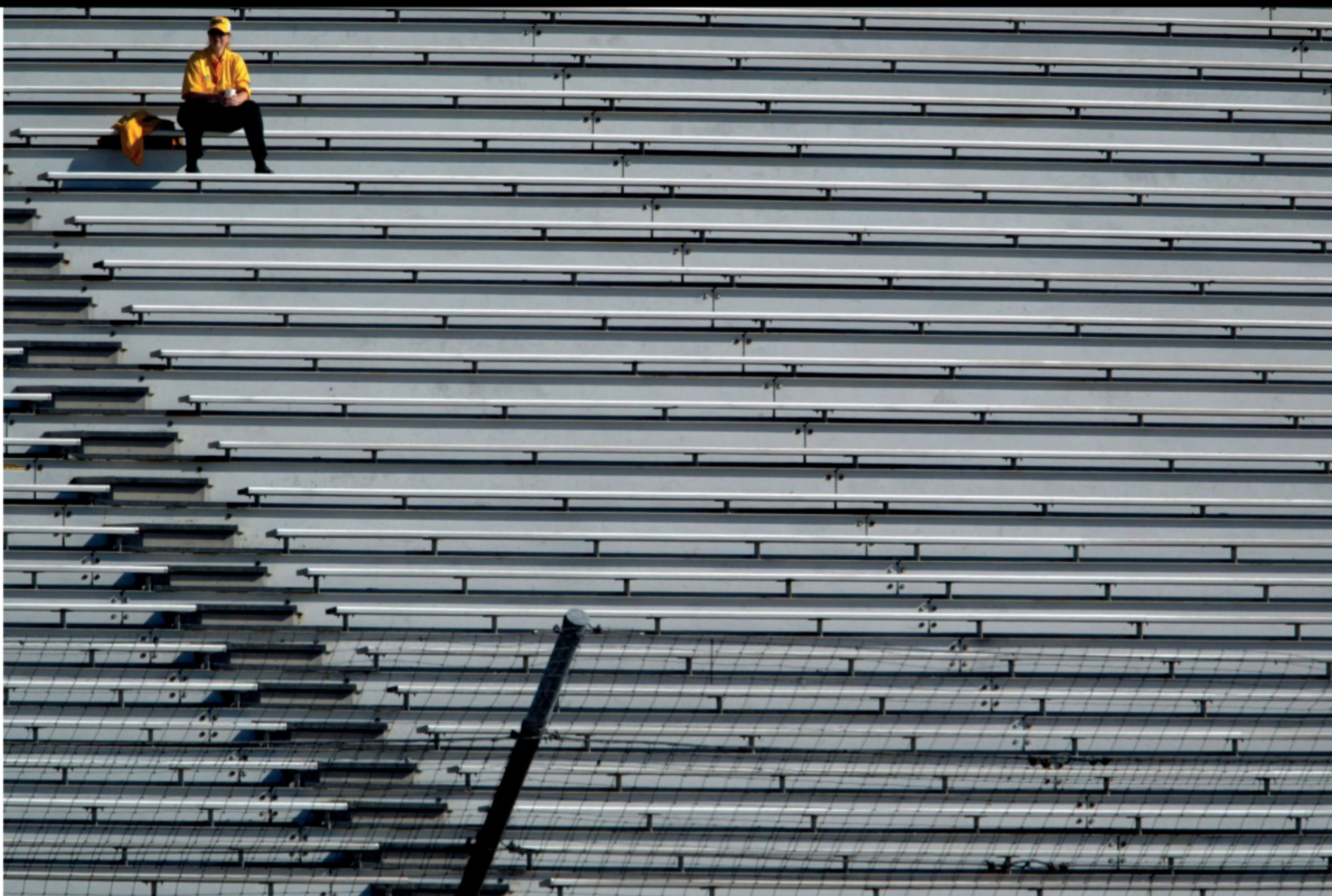
Sometimes, and these episodes are rare, F1 fans have cause for complaint. There were mumblings of disquiet after the last-minute cancellation of the 2020 Australian GP due to COVID-19, but that was nothing compared with the sheer rage of fans at the 2005 US GP, when only six cars started owing to political shenanigans



STAND BY YOUR MAN

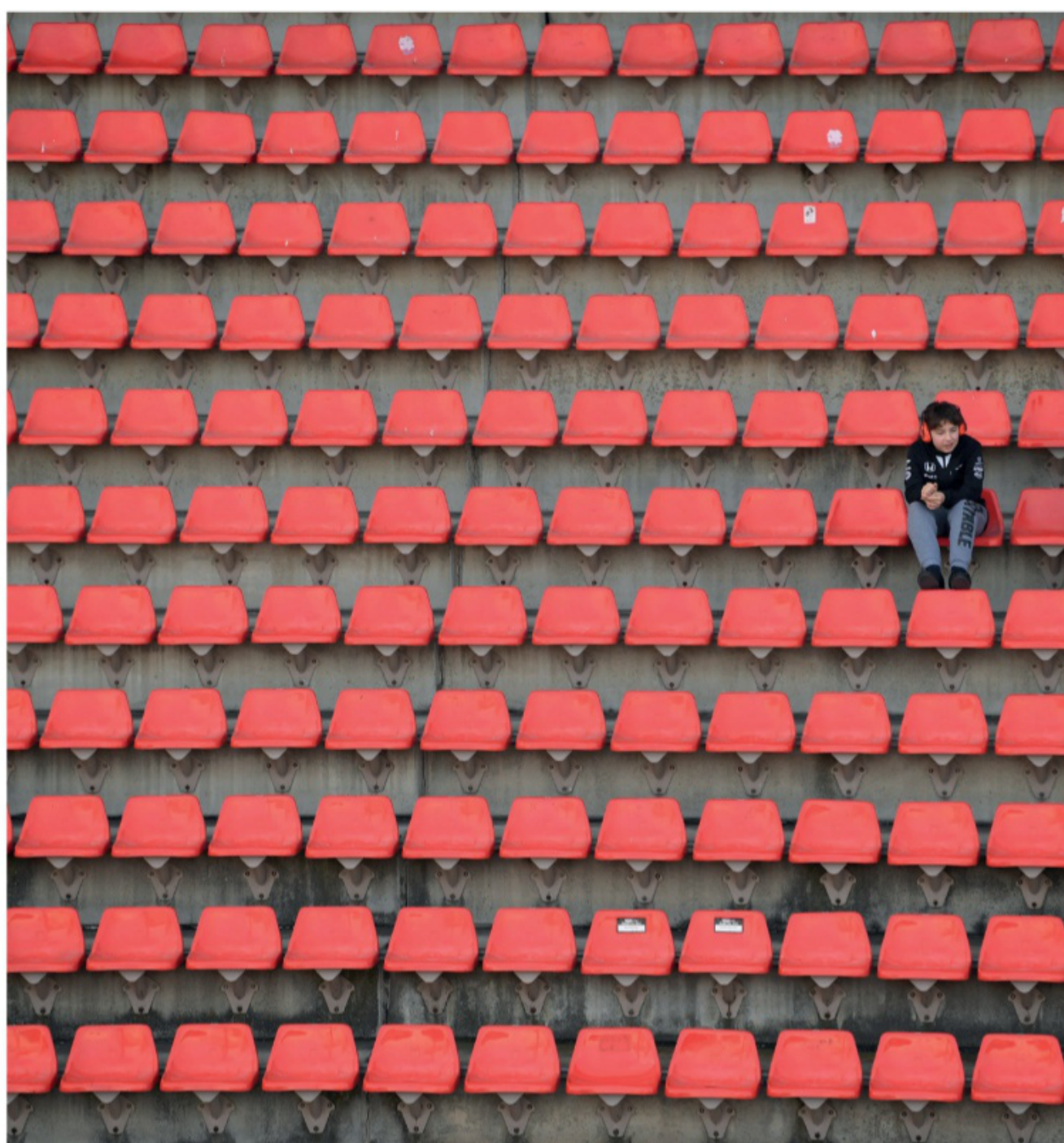
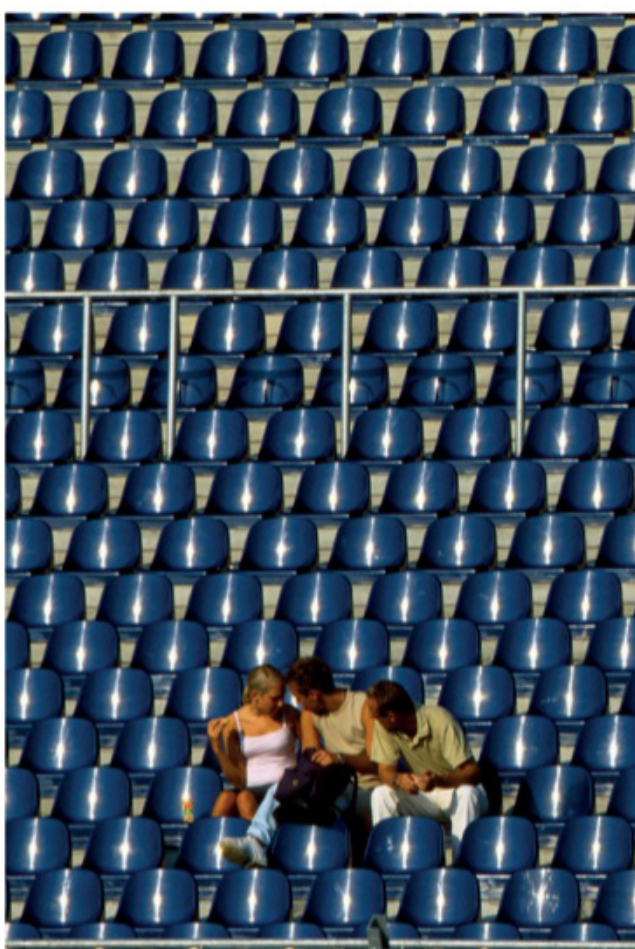
There's always some fans willing to show their adoration from a particular driver. Sergio Pérez and Esteban Ocon know they have at least one fan apiece (below) but Kimi Räikkönen (above), James Hunt (right) and Nigel Mansell (below, right) were all very popular. And even the legend that was Murray Walker had his own fan club





ONLY THE LONELY

Occasionally, though, there aren't thousands of fans cheering on their heroes. It can be because there's too many seats at places like Indianapolis (above) which, when it held GPs, had a permanent capacity of over 250,000 but could seat up to 400,000 with temporary stands. Some other venues can be busy even during tests, but sometimes not (right and below)





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WORLD EXCLUSIVE...

WHAT NEXT FOR DANIEL RICCIARDO?

McLaren ace
opens up about
his fight to stay
in Formula 1



INSIDE



HOW ALONSO
EXPLODED
THE DRIVER
MARKET

GOING NUTS

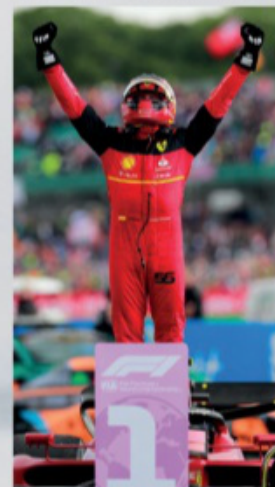
How pitstops
have got more
difficult than ever

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Bull **must** build the
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CARLOS SAINZ

British GP winner
on how Ferrari can
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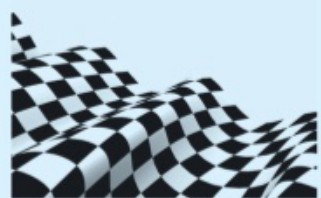
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FINISHING STRAIGHT

RACE DEBRIEF

F1 WORLD CHAMPIONSHIP ROUND 12

THE FRENCH GP IN 5 KEY MOMENTS

1 Leclerc error almost doubles Verstappen's lead

While it may seem premature – to some – to talk about Ferrari's impending defeat in the title battle with Red Bull, that is very much the direction of travel at the moment. The post-season post-mortem at Maranello will dwell on many a symbolic moment. Clear among those are Charles Leclerc's retirements with engine issues in Spain and Baku, which had already severely crippled the Scuderia and its chances of winning.

But it's the sight of the number 16 F1-75

stuck in the barriers of the Paul Ricard track, and Charles's desperate "Noooooooo!" over the team radio, which will dominate recollections of how Ferrari squandered the opportunity to win its first titles in a decade and a half with arguably the fastest car on the grid. Unless, of course, the Scuderia conjures up an even more striking image in the remaining races.

After securing his seventh pole of the season, Leclerc managed to keep Max Verstappen behind

at the start, but the Dutchman was refusing to fall behind. Even after Sunday's qualifying defeat, the championship leader was widely regarded as the favourite to win Sunday's race. Red Bull's top speed advantage over Ferrari should have helped Max, yet he couldn't quite make Leclerc's life too difficult in the opening phase of the race. A dozen and a half laps were enough for Red Bull to realise that the only way to win was to outfox Ferrari through strategy.



Leclerc (above) knew the slide into the barriers (top, left) was his fault. The error handed Verstappen (top, right) yet another victory

PICTURES: ZAK MAUGER; CARL BINGHAM; ALASTAIR STALEY



Sainz was among the fastest but a grid penalty, legacy of his engine failure in Austria, meant the win was unlikely for the Spaniard

Max dived into the pits, attempting an undercut, at the end of lap 16. Ferrari opted not to respond, leaving Leclerc out and therefore, in effect, agreeing to relinquish the lead when Leclerc *did* pit in order to give him a tyre advantage later. There was still all to play for, but Leclerc's crash on lap 18 made it impossible to tell if Verstappen would have taken the lead after Ferrari's pitstop, let alone what might have played out later.

Leclerc overcommitted slightly at Turn 11, better known as the *Double-droit de Beausset*, sending his Ferrari into an almost complete 360-degree rotation before it hit the wall. The impact wasn't too bad, but severe enough to prevent the car rejoining the track. The Safety Car deployment which followed granted Verstappen's other competitors inexpensive pitstops, but Max still became the leader after his rivals changed tyres.

Then it was just a matter of execution. Max proceeded to complete the grand prix at a moderate speed and won for the seventh time this season, increasing his championship lead to an incredible 63 points.

Leclerc maintained second in the standings, thanks to Sergio Pérez's somewhat difficult weekend. Charles could even claim that the title's fate is still in his hands – provided he wins all of the remaining races (not accounting for the extra factor of the fastest laps). But instead, Leclerc acknowledged he is currently falling short of what's required to win the championship: the marriage of speed with consistency.

"I feel like I'm performing at probably the highest level of my career since the beginning of the season, but there's no point performing at that

high level if I am doing those mistakes," he said. "I think there are 32 points overall [I've lost because of my own mistakes]: 25 today, [as] I think it was likely we were going to win today because we were fast, and seven in Imola with my mistake. So at the end of the year, we will count back, and if there are 32 points missing, then I know it's coming from me, and I did not deserve the championship."

2 Sainz charges from last to fifth

It was obvious Ferrari wouldn't be able to rescue Carlos Sainz's power unit from the Austrian Grand Prix. As several of the tech experts within F1's press room pointed out with due wit, the few days between the explosion and the next race in France wouldn't have been enough for the Scuderia's staff to locate all the various pistons which had landed in different parts of the Styrian foothills. Inevitably, Sainz took on a new PU at Le Castellet.

Since Carlos had already gone through his entire annual engine limit in half a season, this condemned him to start from the last row of the grid. That proved to be a pity – because, after the race, many in the paddock were left with the impression that it was Sainz who was the fastest driver this weekend.

Carlos posted the best time in the second practice session on Friday, and that then became second-fastest behind Max Verstappen on Saturday morning, but it's his Q2 effort that

showed how fast he really was in France. Sainz only participated in qualifying to help his teammate with a tow and therefore only did one lap in the second segment of the session – and went 0.9s faster than Verstappen. That lap would have given him a front-row grid slot in Q3 as only Leclerc went quicker, and that was not without needing the help of Carlos himself.

In the race, circumstances worked against Sainz. Having chosen hard tyres for the first stint, he became a victim of the Safety Car period triggered by Leclerc's crash. Carlos had to change to mediums with two-thirds of the race remaining, and in addition to this received a five-second penalty for an unsafe release.

Yet some laps later it looked as if he would still manage to at least finish third on the road. After clearing drivers in slower cars, Carlos then caught and passed both George Russell and Pérez. To be classified third, he would then have had to build a five-second gap – but we'll never know whether he would have been able to do that, because the team called him for a new set of mediums. Having started the weekend with a 53-point gap to Red Bull in the standings, Ferrari decided to play it safe, ditching the possibility of fighting for a podium.

"We realised there wasn't sufficient tyre life to go to the end of the race. As simple as that," said team principal Mattia Binotto. "To stay out would have been a risk in terms of safety and reliability in terms of tyre life. So, we had to stop."

"Additionally, the pace of Carlos wouldn't have been sufficient to open the gap by more than five seconds to Pérez and Russell to cover the five-second penalty. So, it was right to stop." ▶



FINISHING STRAIGHT

RACE DEBRIEF

F1 WORLD CHAMPIONSHIP ROUND 12

3 Mercedes makes the most of below-expectations speed

Mercedes had hoped to be quicker in France, given the track's super-smooth surface. However, even if the speed of the W13 – in qualifying mainly – turned out to be disappointing, the team still left Le Castellet with its best result of the season. And Lewis Hamilton executed his 300th grand prix in a near-perfect fashion, finishing second after starting from fourth.

Having experimented with different packages in practice, Mercedes could never match Ferrari and Red Bull on one-lap pace. Hamilton lost nearly a

second to Leclerc on his best attempt in Q3.

On Sunday, though, the pace difference was slightly less significant. Hamilton made a great start, passing Pérez immediately after the lights went out. He then managed not only to stay ahead of the Red Bull driver but also to build a gap that grew to three seconds by the time Leclerc crashed his Ferrari out of the lead. The Safety Car erased that gap, but Pérez couldn't trouble Lewis after that either, instead being forced to defend his podium position against attacks from Sainz and Russell –

and ultimately letting them both through.

And while Sainz was pulled out of the fight by his own team, Russell made sure Pérez's underwhelming performance at Le Castellet wasn't rewarded with a podium.

Simply a bit faster at that point, on lap 42 Russell launched a rather opportunistic attack at the chicane in the middle of the Mistral Straight. Pérez left the track while defending, but the stewards decided not to interfere, so Russell had to try again.

The battle concluded in a somewhat ludicrous way. After Zhou Guanyu had parked his Alfa Romeo on the side of the track, the stewards activated the Virtual Safety Car – a standard procedure in such cases. But then trouble arose with its disabling. The first attempt failed, which (as FIA explained later) was due to a hardware issue, which forced the system to switch to a backup solution. This led to a delay of almost a minute and confused Pérez, allowing Russell to catch him unawares when the race finally went green again.

Russell and Hamilton celebrate Mercedes' best result of the season in parc fermé



4 Alpine moves past McLaren

Having endured a troubled start to the season, McLaren regrouped and went on a scoring spree – chiefly the work of Lando Norris – which enabled the team to regain fourth place in the constructors' championship. It remained there until the end of the French Grand Prix.

Alpine's start of the season also appeared less than ideal but, if McLaren's form has been significantly variable from race to race depending on the track characteristics, the Enstone team has been more consistent in terms of pace, even if reliability has been wanting. It has now got that under control and it seems unlikely McLaren will regain that fourth spot.

This being notionally Alpine's home race the team was under scrutiny throughout the weekend, and it took time to deliver on those expectations. Lando Norris produced a great lap in qualifying, earning himself and McLaren the fifth spot on the grid, ahead of both Alpine drivers and Russell's Mercedes. On Sunday, though, it took just a couple of hundred metres for soon-to-be 41-year-old



Fernando Alonso to get ahead of the McLaren after another brilliant start. Alonso then locked himself firmly into the 'best of the rest' position and finished sixth.

Esteban Ocon had a much busier afternoon. A first-lap clash with Yuki Tsunoda earned him a 5-second penalty, but it didn't stop him from finishing ahead of McLaren's Daniel Ricciardo, who is still struggling to get to grips with the MCL36. Ocon reckons without a penalty he could have challenged Norris, too – despite claiming his car had some "fundamental issue" which Alpine is yet to understand fully.

"I was still lacking a lot of pace," Ocon complained after the finish. "It took me like 25 laps to pass Daniel, and it should have taken much less."

5 Last corner near-miss for Aston Martin

Lance Stroll finished 10th for the fourth time this year. His French GP point-scoring finish hinged on three factors: a couple of retirements at the front, Stroll's great start, and team-mate Sebastian Vettel's awareness.

Stroll qualified 17th but gained two grid spots

Alonso's sixth ahead of Norris helped propel Alpine to fourth in the constructors' race

thanks to engine penalties for Carlos Sainz and Kevin Magnussen, and made up five places on the opening lap. Overtaking Vettel proved to be vital. As the Safety Car hit the track, Aston Martin decided against a double-stack pitstop, believing it would be too risky, so Vettel had to wait a lap longer, which effectively cost him a couple of positions.

At the end of the race, Seb was faster but caught up with Stroll only on the last lap. Vettel made his rival defend in the final sequence of corners and could have set up a drag race towards the finish line, but instead almost crashed into the back of Stroll's car. The incident left many wondering if Stroll had brake-tested Vettel.

While describing the fight, Vettel avoided using this term but clearly wasn't impressed with Stroll's actions. "He was obviously hitting the brakes again, before accelerating, so caught me by surprise," said Vettel. "I think I was faster, but it doesn't matter. It's the same point for the team."

Stroll ahead of team-mate Vettel. The pair nearly crashed at the final corner of the race



RESULTS ROUND 12

PAUL RICARD / 24.07.22 / 53 LAPS



1st	Max Verstappen	Red Bull	1h30m02.112s
2nd	Lewis Hamilton	Mercedes	+10.587s
3rd	George Russell	Mercedes	+16.495s
4th	Sergio Pérez	Red Bull	+17.310s
5th	Carlos Sainz	Ferrari	+28.872s
6th	Fernando Alonso	Alpine	+42.879s
7th	Lando Norris	McLaren	+52.026s
8th	Esteban Ocon	Alpine	+56.959s
9th	Daniel Ricciardo	McLaren	+60.372s
10th	Lance Stroll	Aston Martin	+62.549s
11th	Sebastian Vettel	Aston Martin	+64.494s
12th	Pierre Gasly	AlphaTauri	+65.448s
13th	Alex Albon	Williams	+68.565s
14th	Valtteri Bottas	Alfa Romeo	+76.666s
15th	Mick Schumacher	Haas	+80.394s
16th	Zhou Guanyu	Alfa Romeo	47 laps/power unit*

*includes 5s penalty for causing a collision

Retirements

Nicholas Latifi	Williams	40 laps - accident damage
Kevin Magnussen	Haas	37 laps - accident damage
Charles Leclerc	Ferrari	17 laps - accident
Yuki Tsunoda	AlphaTauri	17 laps - accident damage

Fastest lap

Carlos Sainz 1m35.781s on lap 51

TYRE COMPOUNDS USED

Hard (C2)	Medium (C3)	Soft (C4)	Inter	Wet

CLIMATE

Sunny

AIR TEMP

34°C

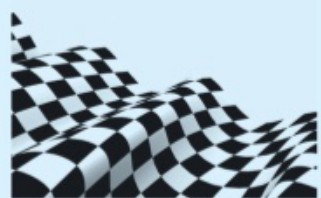
TRACK TEMP

57°C

DRIVERS' STANDINGS

1 Verstappen	233pts	12 Ricciardo	19pts
2 Leclerc	170pts	13 Gasly	16pts
3 Pérez	163pts	14 Vettel	15pts
4 Sainz	144pts	15 Schumacher	12pts
5 Russell	143pts	16 Tsunoda	11pts
6 Hamilton	127pts	17 Guanyu	5pts
7 Norris	70pts	18 Stroll	4pts
8 Ocon	56pts	19 Albon	3pts
9 Bottas	46pts	20 Latifi	0pts
10 Alonso	37pts	21 Hülkenberg	0pts
11 Magnussen	22pts		





FINISHING STRAIGHT

RACE DEBRIEF

F1 WORLD CHAMPIONSHIP ROUND 13

THE HUNGARIAN GP
IN 5 KEY MOMENTS

Max Verstappen took advantage of some shoddy Ferrari strategy to win in Hungary, despite a spin after starting from 10th

1 Hungarian ghoulish for Ferrari as Verstappen spins and wins

It's often said that hindsight affords 20/20 vision. Ferrari will need spectacles of the rosiest possible tint to see the Hungarian GP as anything other than a catastrophe. While Mercedes unlocked enough one-lap pace in its W13 for George Russell to annex pole position (and it might have been an all-Merc front row had Lewis Hamilton not suffered a DRS issue which consigned him to seventh, Carlos Sainz and Charles Leclerc qualified second and third, and you would bet on the F1-75 having better race pace – as it had through Friday practice.

Red Bull seemed to be out of the picture as Sergio Pérez was eliminated in Q2 and Max Verstappen was thwarted by a power unit glitch in Q3. But this is a team always alert to possibilities, and it spotted one as Max understeered off at Turn 2 on his way to the grid. If this was happening on the softest available compound, what would the hardest be like?

Ambients of 19°C – far cooler conditions than experienced during Friday's running, when teams do the bulk of their race simulations – meant the

hard-compound Pirelli became the least desirable choice on Sunday afternoon. There was even a rolling example of it out on track in the form of Kevin Magnussen's Haas. After biffing the back of Daniel Ricciardo's McLaren on the run to Turn 1, K-Mag was flagged for a damaged wing and took on a set of hards as well as a new nose cone – and slithered around at 2s or more off the pace.

Ferrari sleepwalked into disaster as Sainz and Leclerc patiently shadowed Russell through the first stint. When Russell pitted at the end of lap 16



The battle for fourth resumed in Hungary. Alpine team-mates Ocon and Alonso (below) got feisty, and Ricciardo (above) failed to score



to swap his worn softs for new mediums, Ferrari held back on responding – why bother, when both of its cars had started on the mediums? But then Verstappen also pitted, going from soft to mediums. With an eye on the threat from behind, Ferrari pitted Sainz for another set of mediums, and to get him out of Leclerc’s way.

Leclerc completed just four more laps before stopping – but, although he got the overcut done on Sainz to slot into second behind Russell, he was on mediums again, which would require him to stop again and take a different compound before the end of the race. All that was then left was for Red Bull to spring the trap.

Max had made rapid progress through the field. He got a great initial launch before having to back off to avoid being squeezed between Ricciardo and Valtteri Bottas, but then benefitted from Magnussen clipping Ricciardo. Pérez made a greater gain from the squeeze into T1 but obligingly moved over. Eighth became sixth as Max dispatched both Alpines, then followed Hamilton past Lando Norris and took a net fourth place when Lewis pitted at the end of lap 19. By the time Leclerc passed Russell for the lead on lap 31, Max was within undercut distance.

Red Bull called Verstappen in for his final stop on lap 38, fitting another set of mediums. When Leclerc and Russell called in next time around the Mercedes emerged behind Max and the hard-shod Ferrari was easy prey. Here was Ferrari’s second mistake of the day: had it waited, it could have put Charles on softs.

Leclerc had a brief glimmer of hope when Max’s

troublesome clutch helped induce a spin at Turn 13, enabling the Ferrari to briefly reclaim position, but the hards just didn’t work – particularly in traction. On lap 45 Max made another pass stick, then moved into the lead when the out-of-sync Sainz and Hamilton pitted ahead. A fulminating Leclerc then had to stop again for softs, consigning him to sixth at the flag as the Mercedes pair – Hamilton passing a struggling Russell late on – gleefully claimed the last two podium spots.

2 Alpine survives hard-tyre grind to stay fourth

Eighth and ninth for Alpine after its drivers lined up fifth and sixth on the grid might have been a disappointing outcome, but it could have been worse. Esteban Ocon nearly put Fernando Alonso in the pitwall defending his fifth place at the start, and then the team stuck gamely to a one-stop strategy which called for a long stint on the unfavoured hard-compound tyre.

Hamilton’s Mercedes, as well as the two Red Bulls, were out of position on the grid and therefore always likely to come through. What mattered to Alpine, therefore, was how it would fare in comparison with McLaren, its rival for fourth in the constructors’ championship.

Lando Norris qualified fourth, Daniel Ricciardo ninth, but Ricciardo lost two positions at the start when he had to back off to avoid the squabbling

Alpines and was hit by Magnussen. From there he drifted back as his softs “fell apart”, but enjoyed a brief renaissance after stopping for mediums – even overtaking both Alpines in one move.

Alonso pitted for hards at the end of lap 21, Ocon two laps later – and, as Ocon fought to stay ahead of his team-mate at Turn 2 on his out-lap, Ricciardo swept by them both. A second stop, at the end of lap 46, dropped him behind them once more. Having taken on hard-compound tyres Dan was never going to catch them again, and he picked up a 5s penalty for hitting Lance Stroll as the soft-shod Aston went around the outside at Turn 3.

By contrast, though Norris had also lost ground to faster cars coming through, he had built enough of a gap on the Alpines to remain ahead when he made his final stop, for hards, on lap 42. As with Ricciardo, McLaren had no more mediums so it was a choice between soft or hard; with almost 30 laps to run, soft rubber would have meant another stop.

Norris finally crossed the line seventh, 22s ahead of Alonso and Ocon. “When you start P4 you hope for a little bit more,” he said. ▶



FINISHING STRAIGHT

RACE DEBRIEF

F1 WORLD CHAMPIONSHIP ROUND 13



A better weekend for Merc with Russell's pole (above) and yet another 2-3 finish (below)



3 Mercedes turns the tables on science

As F1's chief technical officer and GP Racing columnist Pat Symonds points out on p26 of this issue, one of the most peculiar aspects of Mercedes' season has been the way its W13 car shows flashes of promise which then inexplicably evaporate. Earlier in the year team boss Toto Wolff alluded to correlation problems between the windtunnel research and W13's on-track behaviour.

Aerodynamic research in Formula 1 is a grindingly precise scientific process based on repeatability. New components are tested time and time again to ensure the results they give aren't a fluke.

What Mercedes has been forced to do is therefore pretty much unprecedented: trying parts on the car which have never seen the windtunnel. For the British GP weekend, for instance, it evaluated a new floor which had not been tunnel-tested and it has continued to embrace methodologies outside F1 convention.

Rivals of Mercedes might call it desperation but Wolff attributed the team's recent upswing in form – including Russell's pole position at the Hungaroring and the team's second consecutive 2-3 finish – to thinking outside the box.



"We've done unconventional things," said Wolff after qualifying in Hungary. "I remember having a chat with a very clever lady in aerodynamics and she said: 'If you'd have told me last year we're putting a floor on the car we hadn't run in the windtunnel, I'd have said we're never going to do this.' We did and everybody was proud of the results. It's the same thing every weekend and more so yesterday and today, we've tried things.

"This is a data-based sport. But if you can't rely on the data because they don't correlate from the virtual world, from the tunnel, from CFD, from the simulations with what's happening in real-time on the track, you've just got to try things and find correlations. Basically reverse-engineer correlation and this is what we've done today and had some positive results."

4 Little return for Haas despite huge upgrade

Until the Hungarian GP weekend, Haas was the only team not to apply any performance upgrades to its VF-22 car. And so far as Mick Schumacher was concerned, those circumstances continued to prevail since only Kevin Magnussen's car received what was almost a tip-to-tail transformation.

The headline change was a shift to a Ferrari-style cooling architecture and sidepod package, along with a new floor and diffuser package. But there were many detail changes too.

Not that this yielded an immediate uptick in terms of hard results. Magnussen qualified 13th, Schumacher in 15th. Contact with Ricciardo at the start then led to an early stop at the behest of race control, since Magnussen's front wing had an endplate hanging off, and on hard tyres it was miserably slow going. At the flag Magnussen was 16th, two places behind Schumacher.

It's therefore too early to tell what impact the changes have had, particularly given the



changeable weather during the weekend. And Magnussen was also mindful of the fact that the last time he drove for Haas, an upgrade package took the car backwards.

"We've taken what we could from the weekend in terms of data and testing and I think we saw some positive things," he said. "We need to give it a bit more time so we can get some more performance out of it, but at least we brought an upgrade that does what we expected. We know the potential is there.

"At least it doesn't look like we've taken a step backwards with it. My car seems a little bit better and that's positive."

5 Williams slumps after 'moral victory'

When **Nicholas Latifi** topped a wet FP3 session on Saturday, the first time a Williams has occupied a P1 slot since the 2017 Italian GP weekend, he described it as "a nice moral victory". Unfortunately he followed it up with what he called a "hero to zero moment" when he was caught out by a gust of wind at the final corner on his last flying lap in

Circumstances conspired to mask the effects of the first Haas upgrade package of 2022

Q1, having set the fastest first sector.

Thus Latifi qualified last and then picked up damage in a collision with Sebastian Vettel's Aston Martin at Turn 2 on the first lap of the race. By that point the team's hopes were already evaporating since Alex Albon, who qualified 17th, had already clattered into Vettel's team-mate Lance Stroll.

The wounded cars made it home almost the last of the classified runners, with Albon in 17th and Latifi 18th, ahead of only Yuki Tsunoda – an early spinner – on track. Valtteri Bottas was classified 20th despite stopping with a power unit issue.



Latifi (below) had a confidence boost in FP3 but the Williams pair (above) had a poor race

RESULTS ROUND 13

HUNGARORING/ 31.07.22 / 70 LAPS



1st	Max Verstappen	Red Bull	1h39m35.912s
2nd	Lewis Hamilton	Mercedes	+7.834s
3rd	George Russell	Mercedes	+12.337s
4th	Carlos Sainz	Ferrari	+14.579s
5th	Sergio Pérez	Red Bull	+15.688s
6th	Charles Leclerc	Ferrari	+16.047s
7th	Lando Norris	McLaren	+78.300s
8th	Fernando Alonso	Alpine	+1 lap
9th	Esteban Ocon	Alpine	+1 lap
10th	Sebastian Vettel	Aston Martin	+1 lap
11th	Lance Stroll	Aston Martin	+1 lap
12th	Pierre Gasly	AlphaTauri	+1 lap
13th	Zhou Guanyu	Alfa Romeo	+1 lap
14th	Mick Schumacher	Haas	+1 lap
15th	Daniel Ricciardo	McLaren	+1 lap*
16th	Kevin Magnussen	Haas	+1 lap
17th	Alex Albon	Williams	+1 lap
18th	Nicholas Latifi	Williams	+1 lap
19th	Yuki Tsunoda	AlphaTauri	+2 laps
20th	Valtteri Bottas	Alfa Romeo	65 laps/power unit

*includes 5s penalty for causing a collision

Retirements

Fastest lap

Lewis Hamilton 1m21.386s on lap 57

TYRE COMPOUNDS USED



Hard (C2) Medium (C3) Soft (C4) Inter Wet

CLIMATE

Cloudy

AIR TEMP

20°C

TRACK TEMP

25°C

DRIVERS' STANDINGS

1 Verstappen	258pts	12 Ricciardo	19pts
2 Leclerc	178pts	13 Gasly	16pts
3 Pérez	173pts	14 Vettel	16pts
4 Russell	158pts	15 Schumacher	12pts
5 Sainz	156pts	16 Tsunoda	11pts
6 Hamilton	146pts	17 Guanyu	5pts
7 Norris	76pts	18 Stroll	4pts
8 Ocon	58pts	19 Albon	3pts
9 Bottas	46pts	20 Latifi	0pts
10 Alonso	41pts	21 Hülkenberg	0pts
11 Magnussen	22pts		





FINISHING STRAIGHT

RACE PREVIEW

F1 WORLD CHAMPIONSHIP ROUND 14

BELGIAN GP

26-28 August 2022
Spa-Francorchamps

PICTURE: JERRY ANDRE. ILLUSTRATION: ALAN ELDRIIDGE

THE MAIN EVENT

Majestic Spa ranks among the most challenging circuits in F1 and demands much from the car package – that is, power as well as downforce – as well as placing a premium on driver commitment and finesse.

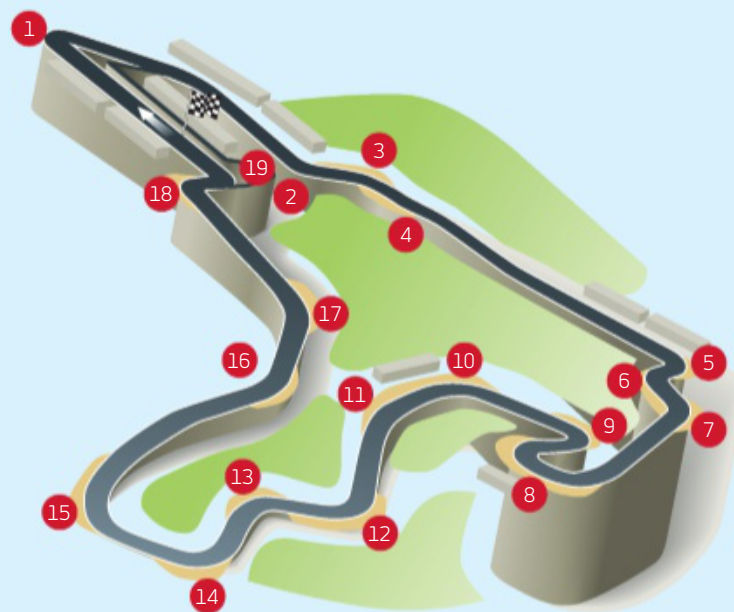
For all that some complain about the iconic plunge through Eau Rouge being ‘easy-flat’ nowadays, this is a tough circuit to master – especially when the fickle Ardennes microclimate is shifting through the gears. Despite major investment in large-scale earthworks to improve the run-off at Raidillon, Spa’s place on the calendar isn’t guaranteed. It’s likely (at the time of writing) that this glorious venue is soon to become an irregular regular, rotating in and out of the schedule with others.

2021 RACE RECAP

Rain throughout the weekend, and particularly on race day, made for potentially the most embarrassingly shambolic affair at Spa since the notorious 1985 event when freshly laid asphalt broke up, ultimately forcing the race to be postponed until later in the year.

Saturday’s qualifying order would dictate the final race result, a pity for Lando Norris, who had topped Q1 and Q2 only to crash out in Q3 as the rain intensified. Max Verstappen started on pole from George Russell and Lewis Hamilton, ‘started’ being an inexact term since, after multiple delays, the race got under way behind the Safety Car and only two laps were completed before the red flags flew again. Half points were awarded while the bedraggled spectators deserved medals.

KEY CORNER: TURNS 10 & 11 Pouhon ranks among the most exciting corners in Formula 1, though it’s definitely not an overtaking point. This double left, slightly downhill corner is flat in the dry and a very tricky beast in the wet, which is always a possibility at Spa...



RACE DATA

Venue Circuit de Spa-Francorchamps
First GP 1950
Number of laps 44
Circuit length 4.352 miles
Race distance 191.414 miles
Lap record 1m46.286s Valtteri Bottas (2018)
F1 races held 54
Winners from pole 21
Pirelli compounds C2, C3, C4

CAR PERFORMANCE

Downforce level Medium
Cooling requirement Low
Full throttle 60%
Top speed 214mph
Average speed 137mph

TIMETABLE (UK TIME)

Friday 26 August
Practice 1 13:00-14:00
Practice 2 16:00-17:00
Saturday 27 August
Practice 3 12:00-13:00
Qualifying 15:00-16:00
Sunday 28 August
Race 14:00
Live coverage Sky Sports F1
Highlights Channel 4

THE PAST FIVE WINNERS HERE



2021
Max
Verstappen
Red Bull



2020
Lewis
Hamilton
Mercedes



2019
Charles
Leclerc
Ferrari



2018
Sebastian
Vettel
Ferrari



2017
Lewis
Hamilton
Mercedes

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FINISHING STRAIGHT

RACE PREVIEW

F1 WORLD CHAMPIONSHIP ROUND 15

DUTCH GP

2-4 September 2022
Zandvoort

PICTURE: ANDY HONE. ILLUSTRATION: ALAN ELDREDGE



RACE DATA

Venue Circuit Zandvoort
First GP 1952
Number of laps 72
Circuit length 2.646 miles
Race distance 190.542 miles
Lap record 1m11.097s
 Lewis Hamilton (2021)
F1 races held 31
Winners from pole 13
Pirelli compounds C1, C2, C3

CAR PERFORMANCE

Downforce level Medium
Cooling requirement Medium
Full throttle 61%
Top speed 192mph
Average speed 133mph

TIMETABLE (UK TIME)

Friday 2 September
Practice 1 13:00-14:00
Practice 2 16:00-17:00
Saturday 3 September
Practice 3 12:00-13:00
Qualifying 15:00-16:00
Sunday 4 September
Race 14:00
Live coverage Sky Sports F1
Highlights Channel 4

THE MAIN EVENT

Although some 'classic' venues are under threat from ambitious new venues, the presence of Dutchman Max Verstappen and his voluminous 'Orange Army' of fans ensured the return of Zandvoort to the calendar last year after a multi-decade hiatus. It's likely to remain as long as he's racing, too.

Located just inland from the beach and originally formed using the communications roads laid down by occupying German forces in WWII, the Zandvoort circuit hosted its first race in 1949. It hosted 30 world championship rounds between 1952 and 1985 before being revived, albeit on a different layout.

Part of the land was sold to developers to build a holiday park so only the first seven corners remain from the original – nevertheless the current configuration is delightfully retro, narrow, sinuous and challenging.

2021 RACE RECAP

Lewis Hamilton arrived in Max Verstappen's back yard with just a three-point lead in the championship and he left Zandvoort three points behind as Verstappen won from pole position. The best Hamilton could do was hang on to second in a race which was processional but, at least, ran to its full distance in sunny conditions before a boisterous crowd, unlike the preceding event at Spa.

Valtteri Bottas was third while Pierre Gasly had a quietly impressive drive to fourth for AlphaTauri, keeping Charles Leclerc's Ferrari behind while nursing one set of medium-compound Pirellis over a huge 48-lap stint.

KEY CORNER: TURN 3 Although lots of money was invested in remodelling Turn 14 as a banked curve, it was the banking at Turn 3 which really encouraged drivers to try a number of different lines last year – with occasionally messy results.



THE PAST FIVE WINNERS HERE



2021
Max
Verstappen
Red Bull



1985
Niki
Lauda
McLaren



1984
Alain
Prost
McLaren



1983
René
Arnoux
Ferrari



1982
Didier
Pironi
Ferrari



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FINISHING STRAIGHT

RACE PREVIEW

F1 WORLD CHAMPIONSHIP ROUND 16

ITALIAN GP

9-11 September 2022

Monza

PICTURE: STEVEN TEE; ILLUSTRATION: ALAN ELDREDGE



RACE DATA

Venue Autodromo

Nazionale di Monza

First GP 1950**Number of laps** 53**Circuit length** 3.599 miles**Race distance** 190.586 miles**Lap record** 1m21.046s Rubens

Barrichello (2004)

F1 races held 71**Winners from pole** 25**Pirelli compounds** C2, C3, C4

CAR PERFORMANCE

Downforce level Low**Cooling requirement** Medium**Full throttle** 75%**Top speed** 220mph**Average speed** 157mph

TIMETABLE (UK TIME)

Friday 9 September**Practice 1** 13:00-14:00**Practice 2** 16:00-17:00**Saturday** 10 September**Practice 3** 12:00-13:00**Qualifying** 15:00-16:00**Sunday** 11 September**Race** 14:00**Live coverage** Sky Sports F1**Highlights** Channel 4

THE MAIN EVENT

Ferrari will arrive at its home grand prix with its best chance of winning there in several years. But Monza, where the ghosts of the past flit through the whispering trees of this evocative venue's urban park setting, has a habit of breaking hearts. Built a century ago, Monza was only the third purpose-built racetrack in the world, since the majority of events were hosted on public roads. It outlasted Brooklands but Indianapolis remains.

The original layout took in a banked concrete oval which fed on to a largely external road course, and it's this latter element which forms the basis of the modern track. Although the oval was relaid in the 1950s it did not find favour and its crumbling remains now form part of Monza's charm.

2021 RACE RECAP

For a second time in succession (after Pierre Gasly's triumph in 2020) Monza delivered an outlier result as an under-pressure Daniel Ricciardo led a McLaren 1-2 from team-mate Lando Norris from an original grid position of fifth. He passed Norris and Lewis Hamilton in Saturday's sprint event, then benefitted from sprint winner Valtteri Bottas being moved to the back of the grid for the grand prix after an engine change.

From second, Ricciardo was ideally placed to benefit when Verstappen had a slow pitstop and then crashed into Hamilton when the Mercedes emerged from its own stop. A frustrated Norris wanted to challenge for the lead but decided to be a team-player.

KEY CORNER: TURN 1 The fiddly and much-modified Variante del Rettifilo comes at the end of a maximum-speed, DRS-augmented straight. Drivers are subject to g-forced so intense under braking that it forces the tears from their eyes.



THE PAST FIVE WINNERS HERE



2021
Daniel
Ricciardo
McLaren



2020
Pierre
Gasly
AlphaTauri



2019
Charles
Leclerc
Ferrari



2018
Lewis
Hamilton
Mercedes



2017
Lewis
Hamilton
Mercedes

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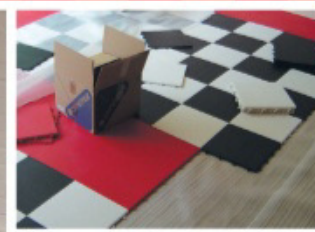
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GT40 UNCOVERED

Authors Claude Nahum and Steve Rendle

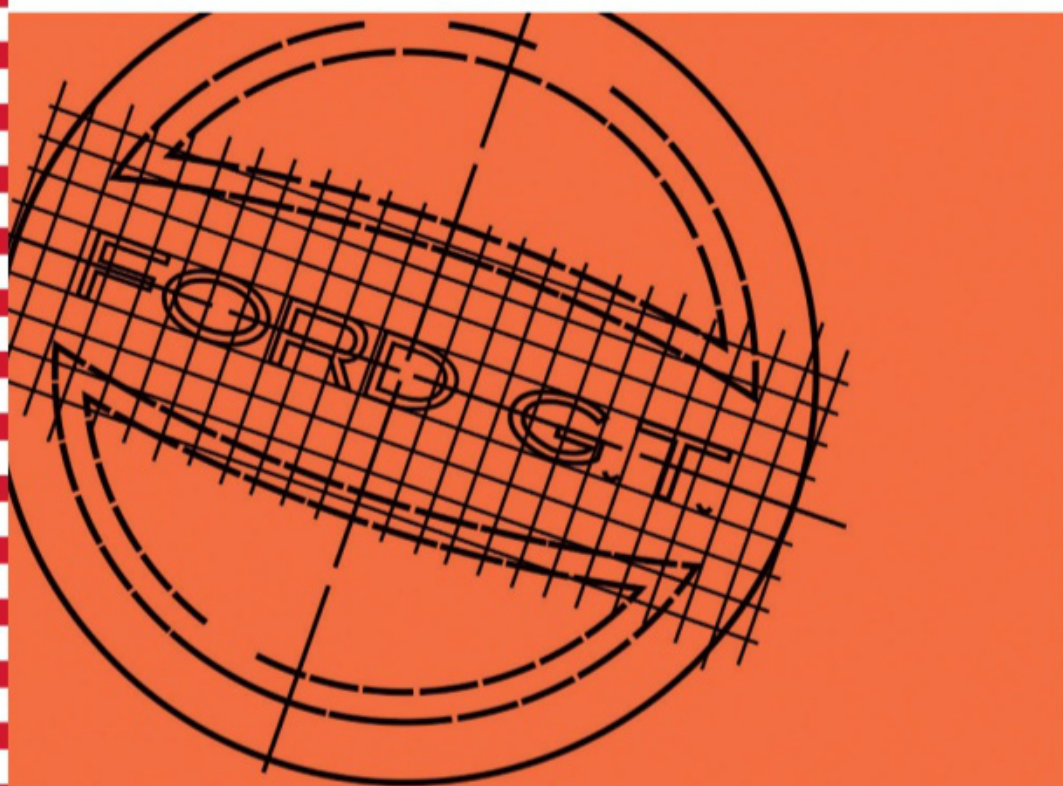
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porterpress.co.uk

The remarkable Ford GT40 – instrument of Ferrari’s downfall at Le Mans in 1966 – underwent a protracted and painful development period involving design teams on both side of the Atlantic ocean. That has been fairly well chronicled but this new limited-edition tome adopts a different approach. Co-author Claude Nahum’s father was a pioneer of the Turkish automotive industry and enjoyed a long association with Ford; Claude worked as an engineer for the Blue Oval and, later in life, acquired

two GT40s which he campaigned in historic racing. In 2013 he acquired a cabinet of original technical drawings from the GT40 project which had belonged to legendary motorsport manager John Wyer, whose company built the production GT40s.

While GT40 Uncovered naturally covers some familiar ground in describing the history of the project, this is essential in order to present the engineering drawings in context. It’s a fascinating look at the nuts and bolts of making a winning sportscar.



GT40 UNCOVERED

A unique look at the engineering story of Ford’s multiple Le Mans winner through the original technical drawings

AUTHOR
CLAUDE NAHUM

CO-AUTHOR
STEVE RENDLE



REBELLION RE-VOLT C42

Price CHF59,000 plus taxes

rebellion-timepieces.com

Swiss watch manufacturer Rebellion is the Alfa Romeo F1 team’s official timekeeper, and it has produced two new limited-edition timepieces to celebrate the partnership. Each one features a sculptured carbon case based on the colours of the drivers’ flags – blue, white and grey for Valtteri Bottas, red and grey for Zhou Guanyu – and with seconds discs based on the wheel covers of the present generation of F1 cars. They are water-resistant to 30m and

have self-winding mechanisms with a 48-hour power reserve.

Each watch features the signature of the driver and, tantalisingly, each one features a fragment of a genuine F1 car. The Bottas C42s include embedded fragments of one of Valtteri’s rear wings, while the Guanyu ones incorporate fragments from one of Zhou’s sidepods. There’s also a choice of straps: Napaskiak with a Velcro buckle, or rubber finished with a folding clasp.

SILVER ARROWS EBIKE

Price £4,160-£4,575

nplusbikes.co.uk

Avid cyclists will be aware of the popular maxim that the ideal number of bikes to own is represented by the equation $n+1$, in which n is the number of bikes you already possess. NPlusBikes is an official licensee of the Mercedes F1 and Formula E teams, for whom it also provides bikes – both fully pedal-powered and electrically augmented.

The Silver Arrows eBike's 6061 aluminium frame has a brushed finish and features team decals. With two

batteries aboard it weighs 21.5kg, and the 250W mid-drive motor has a claimed range of 74 miles. There's no chain – a carbon belt fulfils that function – and it drives through a constantly variable transmission. Under electrical power it's limited to 15.5mph (20mph in the USA). If you want more oomph for hills, the more expensive Silver Arrows Sport eBike packs a 500W motor, delivering a 25mph top speed. A full recharge takes a claimed 3.5 hours.



TAG HEUER MONACO PURPLE DIAL EDITION

Price £5,950

tagheuer.com

Long before Huey Lewis and the News sang *It's Hip To Be Square*, Swiss luxury watchmaker and long-time F1 sponsor TAG Heuer produced the daringly rectilinear Monaco timepiece, famously worn by Steve McQueen in the movie *Le Mans*. Early examples of the Monaco featured a metallic blue paint on a brass surface within the dial; over time this would patinate from blue to a purplish

tinge. This new model, limited to 500 numbered pieces, takes that as its inspiration: within the 39mm square brushed-steel case sits a purple dial with a gradient tint.

The black alligator-pattern strap is lined in purple and the piece's number is engraved on the back of the case, where you can also see the Calibre Heuer 02 movement doing its work through a sapphire crystal window.





FINISHING STRAIGHT

THE FINAL LAP

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HOLLYWOOD AND FORMULA 1: THE SEQUEL

Hollywood history runs the risk of repeating itself when it comes to projecting motorsport on the silver screen. Thirty years after the first poorly received attempt to set *Top Gun* several thousand feet lower down, plans are afoot to give Formula 1 the blockbuster treatment this time.

Apple TV earlier this year landed the rights to an F1 feature film starring Brad Pitt. The red carpet regular will play a seemingly over-the-hill ace who must come out of retirement and pair with a young hotshot to show the world how it's done. If that plot sounds familiar, it's only a couple of F-18 fighter jets short of 2022 smash hit *Top Gun: Maverick*. Oh, and for good measure, *Maverick* producer Jerry Bruckheimer and director Joseph Kosinski will reprise those roles for this flick.

Credits and storyline aside, we've been here before. British GP attendee Tom Cruise first donned a pair of Aviators to play Pete Mitchell in

1986. Four years later, he portrayed oval sensation Cole Trickle when the NASCAR-based *Days of Thunder* landed. The premise was *Top Gun* on Tarmac, but it failed to blow the box office away.

This time, perhaps Lewis Hamilton can help



Brad Pitt (above) has been lined up as the star in Apple TV's new F1 movie. *Rush* (below) was the last F1 film to hit cinema screens



Apple TV steer clear of the danger zone. Lewis has been enlisted as a co-producer and will presumably have some scope to refine the script. In his words: "It's about showing how great this sport really is to people that maybe have never watched it, but also making sure that we keep the real heritage and the true racing spirit in the movie."

Hopefully, that means keep it realistic and avoid the tedious romantic diversions of *Grand Prix* (1966). As for similar projects, F1 was spared the 2001 goose *Driven* after Sylvester Stallone found the paddock to be too much of a closed-shop and instead butchered IndyCar. The stiffest competition in terms of a fictional F1 flick therefore comes from *Rush* (2013). By the time principal filming wraps, more than a decade will have passed and yet the Hamilton-Pitt picture faces the same problems as Ron Howard's retelling of the Niki Lauda vs James Hunt battle for the 1976 title.

That is, F1 cars are enormously valuable so even Hollywood

accountants wince at insurance costs. Plus, any damage and sourcing new parts has the potential to wreak havoc with filming schedules. Then, to look good on the big screen, the regular F1 TV cameras just don't cut it. But bulky movie equipment can't nestle in a nose cone and nor can tracking cars keep up. The result, as per *Rush*, or *Le Mans '66*, is that racing cars struggle when scripted. They come across slow, the scenes underwhelming.

Hamilton reckons: "There's lots of people within the sport who are being a part of this [film], helping educate those who are trying to create this movie. There's talk already of how we're going to capture some of the footage. It's going to take us drivers to be involved in that."

That offers hope. But like *Days of Thunder*, the task is only made harder by the success of a *Top Gun* forerunner. *Maverick* is almost entirely reliant on practical effects to capture the stunning footage, helped by having the actors sitting in the backseat of the aircraft as the pilots plied their trade. Two-seat F1 cars aside, Kosinski might have to get liberal with the use of CGI (much less immersive) or accept some scenes won't be filmed flat-out. While the aim of exciting a new audience beyond even *Drive to Survive* is laudable then, let's hope the execution can still take our breath away.

PICTURES: SHUTTERSTOCK, ILLUSTRATION: BENJAMIN WACHENIE

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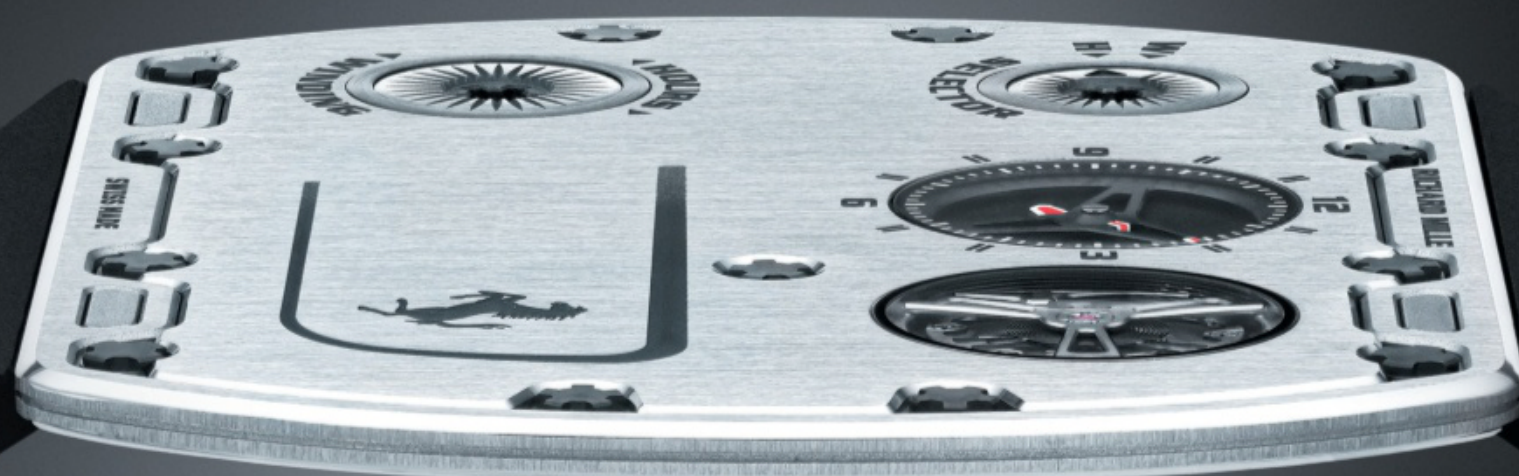
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